O&G MAGAZINE

EARLY PREGNANCY

Vol. 27 No.1 | Autumn 2025

a RANZCOG publication

O&G MAGAZINE

Vol. 27 No. 1 Autumn 2025

RANZCOG
Djeembana, 1 Bowen Crescent
Naarm (Melbourne), VIC 3004, Australia
(t) +61 3 9417 1699
(e) OGmag@ranzcog.edu.au

Advertising Sales
Minnis Journals
(t) +61 3 9836 2808
(e) minnis@minnisjournals.com.au

Printer
Southern Impact
(t)+61 3 8796 7000

O&G Magazine authorised by Ms Vase Jovanoska

For further information about the *O&G Magazine* visit: ogmagazine.org.au.

ISSN 1442-5319

Cover art ©

Contents

The College

4 **From the President**
Dr Gillian Gibson

7 **Leaders in Focus**
Dr Talat Uppal, Samantha Payne

11 **RANZCOG Historical Collection: Annie Besant and the Fruits of Philosophy**
Greg Hunter

15 **Volunteering in Uganda and Cambodia: A Junior Doctor's Experience**
Dr Dominic Edwards

19 **Updates from our Research and Policy Team**
Professor Cindy Farquhar

21 **ANZJOG in 2025**
Associate Professor Scott White

23 **Insights from International Fellowship Recipient: Dr Reema Kohli**
Kim McInnes, Dr Reema Kohli

25 **Insights from Research Grant Recipient: Dr Fiona Li**
Kim McInnes, Dr Fiona Li

27 **Dr Val Chaffer: Centenarian Obstetrician Gynaecologist, Childbirth Education Pioneer, and the Original Medical Mum**
Dr Melanie Thompson, Dr Val Chaffer

Early Pregnancy

35 **Editorial**
Dr Talat Uppal

37 **Founding the Early Pregnancy Loss Coalition**
Isabelle Oderberg

41 **Caesarean Scar Pregnancy - a Shared Approach**
Dr Aparna Ramachandran

45 **The Role of Progesterone in Early Pregnancy, and its Use in Managing Threatened and Recurrent Miscarriage**
Professor Boon Lim, Dr James Corbett

48 **An Overview of Recurrent Pregnancy Loss**
Dr Ying Li

51 **Molar Pregnancies**
Professor Andrea Garrett, Dr David Baartz, Shona Morrison

54 **Case Study: Gestational Trophoblastic Disease - Diagnostic Dilemmas and Management Challenges**
Dr Sonal Karia, Dr Sharadha Mallaiyan

59 **Optimising Ectopic Pregnancy Care: Diagnosis, Treatment and Patient Support**
Dr Talat Uppal, Bethany Lai

Obituaries

63 **Dr Kay Wilson**
Dr Beth Russ

63 **Dr David Woodhouse**
Justin Woodhouse

RANZCOG acknowledges and pays respect to the Traditional Custodians of the lands, waters and communities across Australia, on which our members live and work, and to their Elders, past, and present. RANZCOG recognises the special status of Māori as tangata whenua in Aotearoa New Zealand and is committed to meeting its obligations as Te Tiriti o Waitangi partners.

From the President

Dr Gillian Gibson
FRANZCOG, RANZCOG President

As 2024 wound down and many of us enjoyed a well-deserved summer break to welcome the start of 2025, the College's advocacy efforts continued unabated. As we transition into autumn, I wish to reflect on some of the progress we have made since the last edition of O&G Magazine, especially as the expected federal election in Australia rapidly approaches.

Ending the Year with a Rush of External Consultations

The College contributes to a high volume of external requests for expert consultation, and the end of the calendar year often generates a rush of requests from government departments, research institutions, other medical colleges, and our fellow women's health collaborators. Some interesting submissions we have made include:

- Interim Western Australian Abortion Care Clinical Guidelines produced by the Western Australia Department of Health.
- Victoria Department of Health on Amendments to the Assisted Reproductive Treatment Regulations 2019 as well as new Proposed Amendments to Australasian Health Facility Guidelines.
- Australian and New Zealand College of Anesthetists (ANZCA) on its PS15(PM) Statement on the Clinical Approach to Persistent Pelvic Pain including Endometriosis-associated Pain.
- RANZCOG enacted its commitment to te Tiriti o Waitangi making a public statement in support of health equity and followed this up with a submission to the Aotearoa New Zealand Parliament.

The College participated in well over 125 submissions in 2024, a significant number. I wish to recognise the time and expertise that contributing members, trainees and consumers volunteer to inform our submissions and the considerable effort our staff put into maintaining the College's visibility across policy decisions that affect our specialty.

2025-26 Pre-Budget Submissions and Policy Proposals Ahead of the Federal Election

The end of January held the deadline to respond to the annual call for pre-budget submissions to the federal Department of The Treasury. The College highlighted several areas for investment in women's health in our submission, including:

- Access to sexual reproductive health: The College argued that the time has come to adopt a free contraception policy in Australia. In addition to the pre-budget consultation, the College has also written directly to the major party leaders and key independent MPs about the need to support this forward-thinking policy, especially as other comparable jurisdictions, such as Canada, adopt free contraception.
- Birth trauma: The College also submitted a budget request to expand training and education opportunities to better support the medical workforce in the prevention of birth trauma. Birth trauma was heavily discussed in 2024, and the College's view is that it can only be prevented with better attention to truly multi-disciplinary model maternity care. Additional training opportunities must be provided to our collaborative maternity workforce to help make birth trauma a rare event.
- Training opportunities in sexual reproductive health: The College has also presented a proposal for funding to expand education and training for sexual and reproductive health services, to improve access to medical abortion and include requirements for training for GPOs and midwives.

With the budget expected in late March, we look forward to reviewing the government's commitment to women's health through its 2025-26 investment decisions.

In parallel to the pre-budget submission process, the College has also been working with the Department of Health and Aged Care to extend funding for Obstetrics and Gynaecology Education and Training (OGET), a program which aims to address the essential need for equitable delivery of health services in Australia. Data collected by RANZCOG highlights a significant maldistribution of the workforce with a shortage of obstetric and gynaecological services in country towns, and a need for training opportunities in rural, regional, and remote areas. OGET funding was also included in our pre-budget submission.

Roundtables Advance

Actions stemming from the two College roundtables held in 2024 continue to advance. The College published the final report of the RANZCOG Roundtable on Preserving Women's Choice and the Future of Private Obstetrics and Gynaecology that I reported on in my last editorial.

Scan this QR code below to read the report:

Likewise, the College continues to pursue recommended actions from the RANZCOG Roundtable on Improving Access to Medications & Devices in Pregnancy and Women's Health, specifically exploring several lines of opportunity to bring Nifedipine (immediate release) back to the Australian market, partnering with the National Aboriginal Community Controlled Health Organisation (NACCHO) to do so. The College has also continued to press the wider case of systemic shortages with political leaders, including the Honourable Mark Butler, Minister for Health and Aged Care, and has held meetings with the Pharmaceutical Benefits Scheme to ensure financial equity of access for medicines not already listed.

Progress Towards Gender Equity in the Health System

Gender inequity embedded in the health system continues to be a barrier to progress. The College has been active in advocating for real progress in breaking down these deeply entrenched inequities. Examples include inequitable rebates provided by the Medicare Benefits Schedule (MBS) for services for men that are broadly compatible to equivalent services for women such as in pelvic ultrasound, inadequate MBS rebates for services for women such as care for endometriosis, and insufficient Pharmaceutical Benefits coverage for medications for menopause and sexual reproductive health.

The College has regularly brought these arguments to elected leaders and department staff, and we are seeing results. New MBS items for endometriosis care were funded in last year's budget and are getting closer to coming into effect. Very recently, the federal government announced a significant $573.3 million funding package for women's health. Many initiatives are already in place, such as the listing of new oral contraceptive medications and new hormonal therapies for menopause on the PBS. The rest will be taken to the federal election as a Labor Party campaign commitment. Importantly, the Coalition has pledged to implement this package as well, if elected. We have passed along our sincere thanks to the Minister for Health and Aged Care, the Hon Mark Butler MP and the Assistant Minister for Health and Aged Care the Hon Ged Kearney MP for their leadership in securing this funding package. We have also written to the Leader of the Opposition, the Hon Peter Dutton MP and the Shadow Minister for Health and Aged Care Senator the Hon Anne Ruston to commend them on committing to the same package.

It is gratifying to see the recognition that women's health is a priority across the political spectrum.

The College is tremendously proud of the central role we have played in keeping these issues on the agenda and pushing for solutions. We look forward to working with Members from across the political spectrum to advance women's health priorities in the next Parliament, regardless of the outcome of the election.

Local Advocacy Initiatives

The College continued to support its members and trainees on jurisdictional issues. In December, we attended a meeting with the Minister for Health and Wellbeing for South Australia, the Honerable Chris Picton, to press the issue of better support for the GPO workforce, especially regarding rural sites. At issue was providing General Practice Obstetricians with indemnity insurance, which would allow these members to provide locum coverage in rural areas and provide some relief to the overstretched rural and regional workforce. We also discussed the need to improve access to abortion services in rural areas by enhancing training opportunities for rural GPOs. In February, we met with ACT Minister for Health, Rachel Stephen-Smith MLA urging the prioritisation of gynaecological surgeries and theatre time, citing long public wait times for those who do not have the means to access private health. Increasing operating lists would help enhance training opportunities and attract more consultants to Canberra.

In Aotearoa New Zealand, I was pleased to attend RANZCOG's Urogynaecology Day in Auckland in December. This was the third time that the College held this event, bringing together members working in urogynaecology and responding to the challenge of the mandated pause in midurethral slings and the complexities of the ongoing credentialling process for urogynaecological procedures. Te Kāhui Oranga ō Nuku continues to be very active in engaging with Te Whatu Ora Health New Zealand on a wide range of women's health and professional areas, particularly calling for leadership in women's health and a Gynaecology National Clinical Network to sit alongside the Maternity National Clinical Network.

I hope you've all had a promising start to 2025. The year ahead presents the College with many opportunities to support you all in the vital work we do in caring for the women in our charge. Our work at the College on behalf of our specialty cannot be done without the commitment of our dedicated members, for which you all have my sincere appreciation. Thank you all, and our very best wishes for a successful year ahead.

Finally, it is with great sadness that I acknowledge the passing of Kaumatua Luke Crawford (Ngāti Tūwharetoa, Ngāti Porou) on 13 December 2024. Luke was a valued member of our RANZCOG whānau, in particular as Kaumatua and member of He Hono Wāhine for the last eight years. Truly, a mighty tōtara tree has fallen in Tāne's great forest.

I invite members to read the College's celebration of Luke's life by scanning the QR code below:

Photo: Kaumatua Luke Crawford (Ngāti Tūwharetoa, Ngāti Porou)

LEADERS IN FOCUS

Dr Talat Uppal
MBBS, FRANZCOG, DDU, FAAQHC, FACHSM

This feature sees Dr Talat Uppal in conversation with women's health leaders in a broad range of leadership positions. We hope you find this an interesting and inspiring read.

Join the conversation on X
#Celebratingleadership @RANZCOG

Samantha Payne
Co-Founder and CEO, Pink Elephants

Introducing Samantha Payne

Samantha Payne is the Co-founder and CEO of the Pink Elephants Support Network, an organisation dedicated to supporting women through the often-silent grief of early pregnancy loss. Following her own experiences with miscarriage, Samantha recognised a glaring gap in emotional support services and decided to create a space where no one would have to walk the journey of pregnancy loss alone. Over the past nine years, Pink Elephants has become a vital resource for women across Australia, offering peer support and evidence-based resources to help process the grief of losing a baby.

What inspired you to establish the Pink Elephants Support Network, and how have your personal experiences shaped your approach to leadership in this field?

I was angry at the lack of support being offered to me. My babies had died, yet no one would acknowledge my grief or their existence. I knew that if one in four pregnancies ended in loss, I couldn't be the only woman feeling isolated in her grief. I wanted to talk to other mums who had experienced miscarriages, but there was so much silence, shame, and stigma around the experience that I couldn't find any.

I was connected to Gabbi (co-founder, Gabbi Armstrong), who had her own journey. She gave me support like no one else could—she didn't try to fix me; she just let me grieve. Together, we decided to create a support group for others like us, and over the last nine years, it has continued to grow. The demand is real, and the difference we make is something I'm incredibly proud of. Fundamentally, I believe that no one should walk the journey of pregnancy loss alone; everyone deserves a circle of support.

What significant challenges have you encountered in advocating for early pregnancy loss support, and how have you navigated these obstacles to effect change?

At first, no one wanted to talk about it. Those around me thought I was crazy for setting up a charity for what they perceived as 'just an early loss' or 'nature's way.' Over time, with the growth and impact of Pink Elephants, those opinions have started to shift. I'd say it has been about consistently showing up and sharing the real stories of women like me who have been deeply impacted by the loss of their babies. This has helped shift the narrative from 'at least it happened early' to 'I'm sorry your baby died—here's where you can access support.'

It's still challenging to foster empathy from those who haven't experienced a loss. Miscarriages can be deeply isolating, and women often share with us how no one in their friends and family group understands, which is why peer support from Pink Elephants makes such a difference. On the whole, most health professionals believe this is a huge gap and want to offer more for their patients, but there just hasn't been a place to refer them to until Pink Elephants.

I remember one conversation with a doctor at a conference who argued we weren't needed and that in his day, women just got on with it. Needless to say, I had an enlightening conversation with him about the rates of poor mental health outcomes associated with a lack of support after miscarriage. Sometimes, experience alone isn't enough. We underpin everything we do at Pink Elephants with evidence and empathy. We're across the research in this space; we advocate for our communities and we build meaningful services that make a real impact.

Photo Credit:
Shannon Elise Photography

> *We underpin everything we do at Pink Elephants with evidence and empathy.*

In what ways has the rise of digital health influenced the support services provided by Pink Elephants, and what potential do you see for further innovation in this space?

From the beginning, in 2016, we had a digital approach to connecting women. We understood that women wanted to be heard and have their experiences met with empathy and understanding, and this didn't need to happen in person. Apart from in-person support being much harder to facilitate and scale, it also felt outdated and not in line with what Pink Elephants represented, we wanted to be different.

Social media proved to be the perfect platform for us to initially connect with women, form online support groups, and lead them back to our website for emotional support literature. From a business perspective, this was much easier to scale and moderate with volunteers. It also meant we could connect with rural and remote Australians who wouldn't be able to access face-to-face support groups. Our reach and impact grew significantly during COVID-19, with the world 'going digital' and people becoming more confident seeking health support online. A digital approach is at the heart of Pink Elephants' success and will continue to be a core component of how we deliver support.

How do you balance the emotional demands of your advocacy work with the strategic requirements of leading a not-for-profit organisation?

I am a strategic leader with strong business acumen. I thrive leading our team on our shared mission and bringing all the elements together to create forward momentum and action. I'm also a natural advocate and storyteller—that's where I really shine. I can make people listen and understand our needs.

I have an incredible team. We all have different strengths and weaknesses, and we collaborate to create a powerful circle of support. The success of Pink Elephants has been, and always will be, a team effort. I am still deeply touched by people's experiences, and they continue to drive me to raise more awareness and support.

I care deeply and am naturally a very empathetic person. Over time, I've learned to give myself strong boundaries to avoid burnout from the emotional load of taking on others' experiences. This isn't always easy. I remember recording our podcast, we did three episodes back-to-back in one day. I was deeply triggered and vowed never to do that again. It's not easy bearing witness to so much pain while also seeing a different possible way likey—why on earth are we still seating women in waiting rooms next to other pregnant women when they are experiencing a miscarriage?

Samantha Payne Conference Speaker. Photo Credit: Unknown

> *"It's not easy bearing witness to so much pain while also seeing a different possible way—like, why on earth are we still seating women in waiting rooms next to other pregnant women when they are experiencing a miscarriage?"*

What is your long-term vision for Pink Elephants, and how do you plan to continue to advance the conversation on early pregnancy loss within the broader healthcare community?

I believe it's possible for everyone to understand how to support someone who has gone through pregnancy loss. I see a future filled with deep empathy and understanding from health professionals, workplaces, and the community. I believe we will wake up to the real grief and profound impact of losing a baby at any gestation and stop minimising the experience with 'at least.'

Workplaces will have clear bereavement leave policies for any pregnancy loss and will be equipped with internal peer support companions and offer meaningful support. Healthcare professionals will stop using language such as 'spontaneous abortion' and will understand the need to provide clear referral pathways to Pink Elephants after a pregnancy loss, so women are not at risk of poor mental health outcomes. Communities will respectfully acknowledge the loss and know what to say and how to support women and their partners through their grief. Governments will fund support for all women and ensure a safe, non-trauma-inducing healthcare system, alongside a health strategy that is inclusive of all perinatal losses.

To learn more about Pink Elephants and access their range of support services, visit www.pinkelephants.org.au. You can also follow their journey and connect with the community on Instagram and Facebook at @pinkelephantssupport.

RANZCOG Historical Collection: Annie Besant and the Fruits of Philosophy

Greg Hunter
Archivist and Historical Collections Administrator

In 1877, a 29-year-old woman named Annie Besant stood before an all-male jury in the High Court of Justice in London and spoke out in favour of birth control. She was the first woman to publicly endorse birth control and the right of women to choose when, and if, they had children. But how did this come about? And why was she facing the highest court in the land? The answer lies within a booklet titled *Fruits of Philosophy.*

Written in 1832 by American doctor Charles Knowlton to inform his patients about contraception and sex education, the booklet was originally published anonymously due to laws in the United States which prohibited the publishing of immoral and obscene material, which included information about contraception.[1]

The initial printed form of the booklet was very small, measuring about three by two and a half inches, allowing it to be easily hidden by, and distributed to, anyone seeking knowledge about contraception. Despite originally being published anonymously, Knowlton's name was nonetheless quickly attached to the publication. Due to his efforts to repeatedly publish the book, Knowlton was prosecuted for obscenity three times between 1832 and 1834, once drawing a three-month jail term in Cambridge, Massachusetts.[2] Cooperwood and Hawley have termed Knowlton's actions in publishing and circulating this booklet as one of "the more subtle strategies of resistance in early American history." [3]

In London, *Fruits of Philosophy* had been in circulation since 1833, but became the subject of controversy in 1876 when a "disreputable Bristol bookseller" named Henry Cook "put some copies on sale to which he added some improper pictures." Cook was prosecuted for this, pled guilty, and *Fruits of Philosophy* was subsequently banned in Britain under the Obscene Publications Act of 1857.[5]

Besant was relatively unknown as a public figure at this time, but that was soon to change. In 1874, Annie Besant had met celebrated atheist Charles Bradlaugh, an event which Besant states "coloured all my succeeding life." [4] Bradlaugh was the leading personality in the nation's secularist movement, and the two formed a lifelong connection which burst into life when they joined forces in 1877 to challenge the *Fruits of Philosophy* ban.

Bradlaugh and Besant saw the ban as a legal restriction on the freedom to distribute birth control information [5] and were determined to act. They decided to publish the booklet themselves, "to test the right of discussion on the population question." [4] As Besant recounts, they "took a little shop, printed the pamphlet, and sent a notice to the police that we would commence the sale at a certain day and hour, and ourselves sell the pamphlet, so that no one else might be endangered by the action." [4] Having publicly announced their intent, "a crowd filled the space outside the publishing house" the following day, and the pair "sold hundreds of copies of Knowlton's book." When they were not arrested, "Besant and Bradlaugh renotified the authorities that they were selling a supposedly obscene book and were informed in turn that papers were being prepared for their arrest and prosecution. On 7 April 1877, Besant and Bradlaugh were arrested and taken into custody." [7]

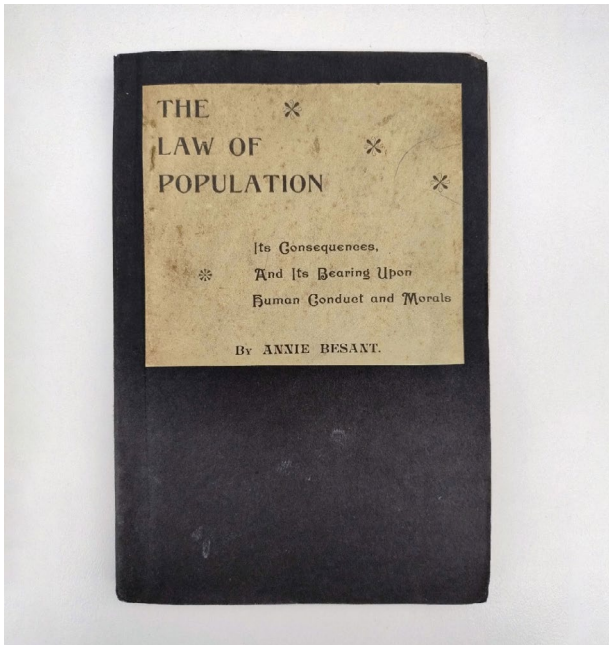
(L-R) Annie Besant and Charles Bradlaugh

The Queen vs Charles Bradlaugh and Annie Besant was highly publicised and became a sensation. Each juror was issued with copies of the booklet "in order to avoid the embarrassment of reading certain passages out loud."[6] The prosecution was led by Sir Hardinge Gifford, the Solicitor-General, who described the booklet as "a dirty, filthy book", claiming that "no human being would allow that book to lie on his table" and that "no decently educated English husband would allow even his wife to have it."

During the trial, Bradlaugh and Besant took the unusual step of conducting their own defence. This was particularly remarkable for Annie Besant, whose "appearance in the courtroom posed a challenge to a gendered legal system."[7] For Chandrasekhar, Besant's involvement in the trial provided "the spectacle of an educated and prominent woman, running the risk of ostracism and imprisonment, stoutly defending the right to discuss birth control."[9] As Besant herself put it, "I risk my name, I risk my liberty; and it is not without deep and earnest thought that I have entered into this struggle."[4] For Besant, her motivation came not from her own ambition, but from her responsibility to "speak as counsel for hundreds of the poor, and it is they for whom I defend this case."[4]

Whilst Bradlaugh and Besant were originally found guilty, the judgement was subsequently set aside on a technicality, and both defendants walked free.

Following the trial, Besant quickly published a new pamphlet of her own to replace Knowlton's *Fruits of Philosophy*, which she considered to be outdated. Entitled *The Law of Population: Its Consequences, And Its Bearing Upon Human Conduct and Morals,* Besant's text was a huge commercial success. By the time it was withdrawn from publication in 1891,"it had sold 175,000 copies in England, it had been reprinted in the United States and Australia, and it had been translated into German, Dutch, Italian, and French—making it among the most widely circulated tracts on contraception in its time." [7]

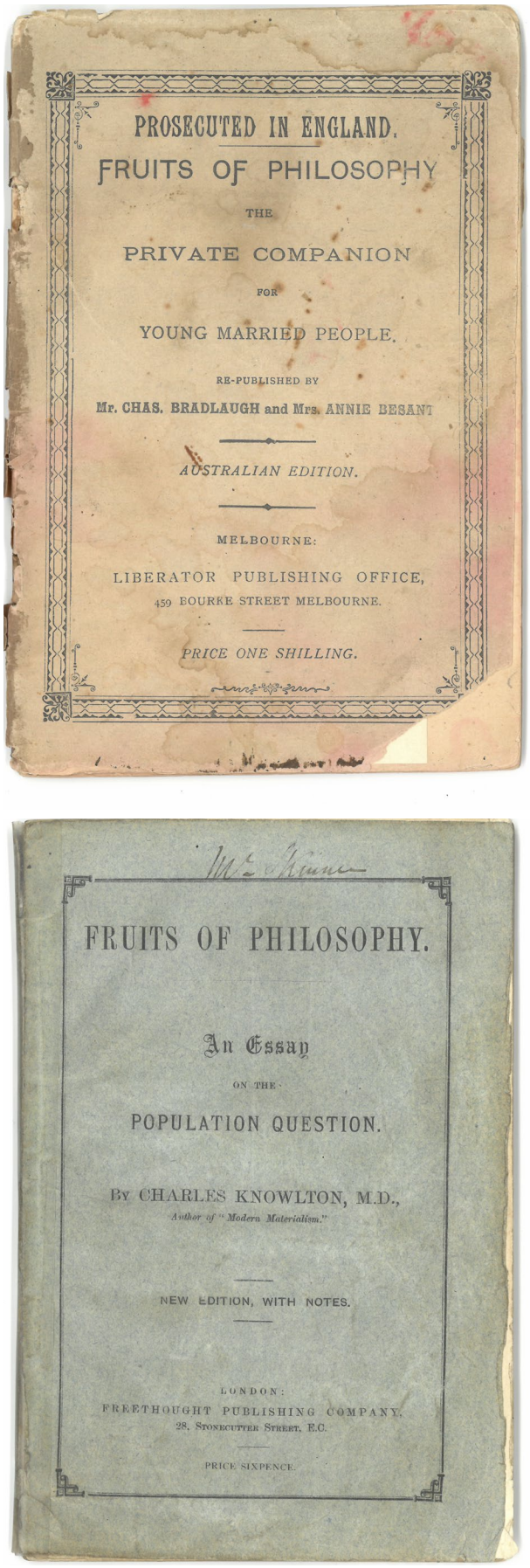


Annie Besant's The Law of Population: Its Consequences, And Its Bearing Upon Human Conduct and Morals. n.d. RANZCOG Frank Forster Library

Legacy in the RANZCOG Collection

The College's Frank Forster Library holds multiple copies of *Fruits of Philosophy* as published by Bradlaugh and Besant in its collection, indicating its importance as a seminal text in the field.

The earliest copy held in the library dates from 1880 and makes an interesting contrast with a later 1894 Australian edition of the booklet, also held in the library. Each is approximately 18 to 19cm high, so physically much larger than Knowlton's initial publications.



Fruits of Philosophy, 1880 and 1894 editions. RANZCOG Frank Forster Library

The 1880 copy of the booklet is fairly understated. Charles Knowlton is referenced on the cover of the booklet, while Besant and Bradlaugh's role in the publication is only noted in small print on the inside. The 1894 edition makes for a very different story. In this edition, Charles Bradlaugh and Annie Besant are mentioned in bold print on the cover, and the title itself has been given the second line of billing to the sensationalist proclamation, 'Prosecuted in England'. Interestingly, Knowlton seems to have been completely disassociated from this edition of the booklet, with his authorship only acknowledged in the text of the preface. If you wanted to know what 'clickbait' looked like in 1894, this is it!

Annie Besant was a remarkable woman, whose involvement in the birth control debate in the 1870s did a considerable amount to bring the issue into the public domain. Her collaboration with Charles Bradlaugh to publish the *Fruits of Philosophy* in 1877, and her outspoken defence of birth control, was crucial to changing the narrative around contraception in society.

These texts, along with a number of other texts written and published by Annie Besant, are part of the Frank Forster Library collection held at Djeembana College Place in Naarm Melbourne. Members and trainees are invited to visit the College to view these fascinating insights into obstetrics history.

Portrait of Annie Besant (1849-1933). Wellcome Collection. Source: Wellcome Collection. Licensed under CC BY 4.0.

References

1. Nunez-Eddy M, Meek C. The Fruits of Philosophy (1832), by Charles Knowlton. Embryo Project Encyclopedia, Arizona State University. 2017. Accessed January 15, 2025. embryo.asu.edu/pages/fruits-philosophy-1832-charles-knowlton
2. Green J. A Few of Our Favourite Things, Part One: Charles Knowlton's Fruits of Philosophy. The Library Company of Philadelphia. 2013. Accessed January 15, 2025. librarycompany.org/2013/09/18/a-few-of-our-favorite-things-part-one-charles-knowltons-fruits-of-philosophy/
3. Cooperwood M, Hawley C. Knowlton's Fruits of Philosophy. Resistance in Early American History. University of Michigan. n.d. Accessed January 15, 2025. courses.lsa.umich.edu/resistance-in-early-american-history/knowltons-fruits-of-philosophy
4. Besant A. Annie Besant: An Autobiography. Third impression. The Theosophical Publishing House; n.d.
5. Janssen F. Talking about Birth Control in 1877: Gender, Class and Ideology in the Knowlton Trial. Open Cultural Studies. 2017;1(1):281-290. doi: doi.org/10.1515/culture-2017-0025
6. Manvell R. The Trial of Annie Besant and Charles Bradlaugh. Elek Books; 1976
7. Sreenivas M. Birth Control in the Shadow of Empire: The Trials of Annie Besant, 1877–1878. Feminist Studies. 2015;41(3):509-537. doi: doi.org/10.1353/fem.2015.0042
8. The Queen v. Charles Bradlaugh and Annie Besant (Specially Reported). Second Edition. Freethought Publishing Company; n.d.
9. Chandrasekhar S. "A Dirty Filthy Book": The Writings of Charles Knowlton and Annie Besant on Reproductive Physiology and Birth Control and an Account of the Bradlaugh-Besant Trial. University of California Press; 1981.

Volunteering in Uganda and Cambodia: A Junior Doctor's Experience

Dr Dominic Edwards
BMSt, MD, MWomMed

Dr Dominic Edwards is the Principal House Officer for the Department of Obstetrics and Gynaecology at Mater Mothers' Hospital in South Brisbane.

In 2025, despite significant advancements in medicine and global efforts to improve maternal healthcare, the stark reality remains that many developing nations continue to grapple with alarming rates of poor maternal and neonatal outcomes [1]. While some regions have seen progress, significant barriers to sustainable improvements persist, such as corruption, resource (mis)allocation disparities, infrastructure limitations, gender-biased attitudes, and the cultural influences of religions. Consequently, socio-economic factors[2] persistently undermine the quality of obstetric and gynaecological care available to women in these areas. Preventable complications during pregnancy, childbirth and the postpartum period continue to take a devastating toll, leading to unnecessary suffering and loss of life [3].

You Have to Start Somewhere...

Responding to the *O&G Magazine* callout for contributions regarding global women's health initiatives in low to middle-income countries, I am sharing my initial experiences from two distinctly different locations over the past two years.

As a junior doctor, I have decided to supplement my career development in the Australian medical system with experiences in developing countries. I aimed to contribute to better maternal outcomes both in developing nations and at home. At the end of my degree, and in the first two years post-graduation, I started this pathway with experiences in Uganda and Cambodia. The exemplary mentorship of Professor Judith Goh AO and Professor Hannah Krause AO ignited my passion for this approach to my career and guided my choice of initial locations.

My Experience in Uganda

After completing medical school at the end of 2022, I travelled to the Kagando Mission Hospital to work in the obstetrics and gynaecology ward. Kagando Hospital is in rural Western Uganda, about 30kms from the Democratic Republic of Congo border and an eight-hour drive from the international airport in Entebbe. As I arrived, Uganda and the World Health Organisation declared an outbreak of the Sudan variant of the Ebola virus in the central provinces—a concerning development. However, given that over 40% of people in Uganda are HIV positive, the need for medical support is constant. The only slight relief was that the Islamist militias on the Congo side of the border were unlikely to cross. Apparently, even militias fear Ebola!

Professor Judith Goh AO, Prof. Hannah Krause AO, Dr Edwards and Sarah Macculloch (Medical Student) at the Khmer Soviet Friendship Hospital, Phnom Penh

To put my work into context, the first thing to know is that Uganda is one of the most fertile countries in the world, with women on average giving birth to 4.6 children[4] (for comparison, the rate in Australia is 1.7[4]). The second is that in Western Uganda, women only go to the hospital to give birth if there is a problem; otherwise, they give birth in their village. Third, every aspect of the system is under-resourced and the infant mortality rate is 31.2 per thousand live births[4] (for comparison, the rate in Australia is 3.2). Also, many children don't survive birth—those statistics are not readily available in Uganda, so the mortality rate is likely to be much higher.

> *"In Western Uganda, women only go to the hospital to give birth if there is a problem; otherwise, they give birth in their village."*

In this environment, from Monday to Friday, I was one of two doctors managing sometimes over 60 maternity patients daily in a 30-patient ward. The resource-poor setting presents many challenges; even the supply of surgical gloves and masks was uncertain despite the HIV (and now Ebola) risk.

After work each day, I worked on data collection and analysis for a research project I led, and I played football with the staff. On the weekends, I accompanied a retired nurse from the UK on various health and outreach programs that were established by the hospital and funded by various charities. I ran the Nyabirongo Prison Health Screening Clinic twice, providing care to about 75 prisoners living in terrible conditions with typhoid fever, malaria, and wound infections. Every month, the team put on a breakfast for children with HIV and their caregivers, followed by an education session about living with HIV.

With the Rwenzori Women for Health Outreach team, I travelled to four remote villages in the Rwenzori Mountains to educate the villagers regarding various stigmatised topics such as puberty, the menstrual cycle, drug and alcohol abuse and homelessness. Given the Ebola outbreak, health promotion and education about Ebola and other infectious diseases was essential during these community visits. I also conducted a malnutrition workshop for young mothers with severely malnourished children—a problem I noticed in postnatal clinics where newborns returned with poor growth rates, infections, and mortality.

My research project at Kagando Hospital represented the first comprehensive assessment of obstetric and perinatal outcomes at this hospital. It enabled evidence-based decisions to address the specific needs of the diverse patient population, optimise resource allocation, enhance the quality of care, and ultimately improve maternal and neonatal health outcomes. Additionally, training the local doctors in data collection and analysis hopefully promotes continuous quality improvement efforts, maximising the impact of limited resources in resource-constrained settings. I have also been appointed to the Board of Trustees of Kagando Hospital, helping facilitate medical student and junior doctor placement at Kagando and continuing to mentor quality improvement and research projects at the hospital with a specific focus on women's health.

Dr Edwards pictured with a prison guard and his family after attending the Nyabirongo Prison Health Screening Clinic

> *"My research project at Kagando Hospital represented the first comprehensive assessment of obstetric and perinatal outcomes at this hospital. It enabled evidence-based decisions to address the specific needs of the diverse patient population."*

Ebola Health Promotion in a remote town in Western Uganda with the Rwenzori Women for Health Outreach Team

Despite the tough operating environment, it would be remiss of me not to mention the dedication of the people I worked with, the extraordinarily moving experiences of being literally sung into the mountain villages by the children, and the warmth of my colleagues at the hospital. My time was marked by both joy and sadness but was overwhelmingly rewarding.

My Experience Working in Cambodia

In my Intern (December 2023) and SRMO (June 2024) years, I accompanied Professor Goh and Professor Krause on a trip to Cambodia, running an Obstetric Fistula and Pelvic Organ Dysfunction Camp at the Khmer Soviet Friendship Hospital in Phnom Penh. These two specialist urogynaecologist and vesico-vaginal fistula (VVF) surgeons selflessly spend up to three months every year travelling the developing world, teaching complex gynaecological surgery, and making a profound difference to the local patients, clinicians, and communities. It is difficult to quantify the debilitating and ostracising effect VVF[5] has on women in these developing nations. However, after reviewing them post-operatively, the marked change in these patients' moods and dispositions highlights why such initiatives are so vitally important and how inspiring the commitment of these surgeons to improving global women's health is. We know from work done across Africa and Asia, by doctors such as Dr Catherine Hamlin AC, Dr Andrew Browning AM, Professor Goh and Professor Krause, that the lives of these women post-surgery are significantly improved as they are reintegrated into society. I am fortunate to be accompanying the team in August 2025, to Uganda to assist in the VVF/prolapse camp, education workshops, and lectures.

> *"It is difficult to quantify the debilitating and ostracising effect vesico-vaginal fistula has on women in these developing nations. However, after reviewing them post-operatively, the marked change in these patients' moods and dispositions, highlight why such initiatives are so vitally important."*

Looking Ahead

Regarding the future, I am just at the beginning of my career as a doctor and still have so much to learn. Fortunately, I am surrounded by inspiring mentors such as Professors Goh and Krause, and the many consultant obstetrician gynaecologists at the Mater Mothers' Hospital. It is a privilege to deliver high-quality care to women in both the developed and developing world.

It's a start.

References

1. United States: Improving Maternal and Newborn Health and Survival and Reducing Stillbirth - Progress Report 2023. SyndiGate Media Inc; 2023.
2. Souza JP, Day LT, Rezende-Gomes AC, et al. A global analysis of the determinants of maternal health and transitions in maternal mortality. The Lancet global health. 2024;12(2):e306-e316. doi:10.1016/S2214-109X(23)00468-0
3. Kurjak A, Stanojević M, Dudenhausen J. Why maternal mortality in the world remains tragedy in low-income countries and shame for high-income ones: will sustainable development goals (SDG) help? Journal of perinatal medicine. 2023;51(2):170-181. doi:10.1515/jpm-2022-0061
4. Fertility rate, total (births per woman) [Internet]. World Bank Gender Data Portal. Available from: https://genderdata.worldbank.org/en/indicator/sp-dyn-tfrt-in
5. Ahmed S, Holtz SA. Social and economic consequences of obstetric fistula: Life changed forever? International journal of gynaecology and obstetrics. 2007;99(S1):S10-S15. doi:10.1016/j.ijgo.2007.06.01

Updates from our Research and Policy Team

Professor Cindy Farquhar
RANZCOG Dean of Policy & Research
MB ChB, MD, FRCOG, FRANZCOG, CREI, MPH, MNZM, PMMRC

As RANZCOG continues to lead research and develop clinical guidance in women's health, early pregnancy remains a key focus area—aligning with the theme of this issue of *O&G Magazine*. A number of RANZCOG clinical guidance statements and guidelines support best practice in early pregnancy care, including:

- Routine antenatal assessment in the absence of pregnancy complications (C-Obs 3b)
- Screening and diagnosis of fetal structural anomalies and chromosome conditions (C-Obs 35)
- Early pregnancy screening and prevention of preterm preeclampsia and related complications (C-Obs 61)
- Pre-pregnancy and pregnancy-related vaccinations (C-Obs 44)

Looking ahead to 2025

RANZCOG Research and Policy is excited to further expand RANZCOG early pregnancy resources, with the anticipated publication of the Miscarriage, Recurrent Miscarriage and Ectopic Pregnancy clinical guideline (C-Gyn 38). Once published, this new guideline will offer advice to registered health professionals providing care for women with suspected or confirmed early pregnancy loss, including miscarriage, recurrent miscarriage and tubal or non-tubal ectopic pregnancy.

With 2025 shaping up to be a busy year for Research and Policy, additional work currently underway, or expected to commence in 2025, includes:

- Anticipated launch of the updated Australian Living Evidence Guideline: Endometriosis (C-Gyn 5)
- Update and development of two existing RANZCOG clinical guidance documents – Birth after Caesarean (C-Obs 38) and Vasa Praevia (C-Obs 47)
- Development of a new evidence-based RANZCOG guideline on Menopause (including genitourinary syndrome and premature ovarian syndrome)
- Development of a new and Robotic Surgery in Gynaecology guideline (including urogynaecology and gynae-oncology)

Research and Policy and the RANZCOG Women's Health Committee would like to thank all Guideline Development Group Chairs and members for their valued time and expertise which makes this important work possible.

Get involved in 2025

Opportunities to participate in guideline development and provide feedback on draft documents are advertised in RANZCOG's publication Connect so please keep an eye out in 2025. To access our clinical guidance documents, please select the Women's Health menu option via RANZCOG's website.

Contact us

To connect with RANZCOG Research and Policy, or to provide feedback about guidelines or Patient Information Pamphlets, please contact: womenshealth@ranzcog.edu.au

ANZJOG in 2025

Associate Professor Scott White
ANZJOG Editor-in-Chief
MBBS, PhD, FRANZCOG, CMFM

ANZJOG is Growing

It is my great pleasure to lead the Australian and New Zealand Journal of Obstetrics and Gynaecology (ANZJOG; the Journal) into its 65th year as the College's flagship scientific publication. The Journal continues to grow, with a rise in submissions again in 2024, which has led to an increased number of publications. This growth is essential not only for the Journal's sustainability but also for advancing high-quality, evidence-based care for our patients. Additionally, it provides a valuable platform for the academic development of our junior clinicians and scientists.

Wiley to Continue as ANZJOG Publisher

Recently, the College completed a tender process for ANZJOG's publisher and we're pleased to reappoint Wiley. Wiley has now published the Journal for over 20 years and brings a wealth of local knowledge to the Australian and New Zealand scientific publishing forum. Wiley plans to introduce several initiatives aimed at improving the publication experience for authors and readers.

Open Access Expanded

Open Access will continue to expand, broadening the reach of published articles, providing robust financial security for the Journal and reducing costs for RANZCOG members. With expanded support under the Council of Australian University Librarians (CAUL) agreement, authors affiliated with participating universities and health services can access subsidised Open Access publications. However, ANZJOG will remain a hybrid publication for now, allowing those without such affiliations to publish their work without article processing charges. RANZCOG members will continue to have full ANZJOG access as a benefit of membership.

Making Article Submission Easier

Wiley has introduced the Research Exchange Submission (ReS) portal, which streamlines the article submission process. Alongside other behind-the-scenes manuscript processing software, this should allow more efficient manuscript processing and reduce avoidable publication delays.

I acknowledge that some authors have experienced lengthy peer review delays over the past year. This is partly due to an increased number of submissions, as well as an increasing rate of declined invitations to provide peer review. ANZJOG is particularly vulnerable to these delays due to a small pool of experts frequently invited to review and the challenges, as a smaller journal, in engaging international reviewers. I am deeply appreciative of our peer reviewers, whose contributions are fundamental to maintaining the academic standards of our publication.

ANZJOG's Editorial Board

I am immensely grateful to the ANZJOG Editorial Board members who generously provide their time and expertise to review and process manuscripts. Our Board is relatively small for a journal of this size, and I plan to significantly expand its membership this year. Expressions of interest will be welcomed from those keen to contribute or develop skills in academic publication, with a formal call to be released soon. In addition to experts in general obstetrics and gynaecology, we are particularly looking to include members with expertise in gynaecological surgery, qualitative research methodologies, perinatal epidemiology, and maternal medicine.

Thank you to everyone who continues to support ANZJOG through article submissions, peer reviews, and content engagement. It is only through your continued support that RANZCOG can maintain its own scientific publication.

Insights from International Fellowship Recipient: Dr Reema Kohli

Kim McInnes
Membership and Engagement, RANZCOG

Dr Reema Kohli
MBBS, DNB, MRCOG, FRANZCOG

In 2023, Dr Reema Kohli was awarded the Brown Craig Travel Fellowship. This article profiles Dr Kohli as she embarks on a six-week placement at Purohit General Hospital and Research Centre in Odisha, India.

Dr Reema Kohli Recipient of the Brown Craig Travel Fellowship 2023

Dr Kohli is a RANZCOG-accredited consultant in obstetrics and gynaecology with a special interest in pelvic floor disorders and minimally invasive surgery. Her career began with specialist training at major tertiary hospitals in Delhi, where she became a board-certified specialist in obstetrics and gynaecology. In 2018, she was awarded membership of the Royal College of Obstetricians and Gynaecologists (UK).

Her passion for pelvic floor disorders led her to complete post-fellowship training in urogynaecology at Gold Coast University Hospital, Varsity Lakes, and Robina Hospitals in Queensland. Following this, she began teaching medical students at Griffith University, Gold Coast. Dr Kohli now works as a consultant obstetrician and gynaecologist at Eastern and Monash Health in Victoria and operates a private practice at Grace Womens in Berwick. She also serves as an examiner on the RANZCOG Board of Examiners.

In addition to her clinical and teaching work, Dr Kohli has presented research on predictors of fetal growth restriction and received awards for developing new techniques to improve urinary tract visualisation during laparoscopy. Her findings have been showcased at both national and international conferences, including the Australasian Gynaecological Endoscopy and Surgery Society Pelvic Floor Symposium and the International Federation of Gynecology and Obstetrics International Conference.

Dr Kohli with Purohit General Hospital and Research Centre Nursing staff

Dr Kohli with a satisfied patient four weeks post-surgery

Dr Kohli's Experiences from the Brown Craig Travel Fellowship

Through the Brown Craig Travel Fellowship, I travelled to Purohit General Hospital and Research Centre in Odisha, India, to undertake a six-week placement to learn advanced techniques in vaginal hysterectomy for non-prolapse benign indications. The hospital is a regional referral centre offering advanced gynaecological, obstetric, general surgery, and IVF services to the local population.

I had the opportunity to learn the Purohit Technique for vaginal hysterectomy from Dr Ram Krishna Purohit and his team. This widely published technique evolved over the last 20 years and emphasises ergonomic yet safe procedures to minimise visceral injury, using specialised instruments such as the Purohit forceps and a bipolar energy device. The team now applies it to most benign gynaecological indications for hysterectomy.

During my time in Odisha, I deepened my understanding of pelvic floor anatomy and learned to manage complex hysterectomies. I observed how cultural beliefs influence women's health decisions, with many preferring a hysterectomy over conservative management for conditions like abnormal uterine bleeding once completing their families. I gained hands-on experience, assisting in 25 cases and independently performing six learned techniques for large uteri, previous surgeries, and minimally invasive approaches. I also assisted in vagino-laparoscopic surgery for a hysterectomy on a large 20-week-sized uterus using a minimally invasive approach.

During this placement, I was exposed to a variety of surgical methods that I had not previously encountered (or learned) in Australia. Compared to the robotic and laparoscopic surgery commonly used in Australia, the use of vaginal approaches proved equally effective, safer and more cost-efficient, achieving excellent postoperative outcomes. The collaborative efforts of a highly enthusiastic team of nurses ensures the smooth running of this 24/7 medical centre.

Rewards of the fellowship experience

One of the most rewarding parts of my experience was meeting satisfied patients after surgery. One example that stands out was a 50-year-old woman who travelled 175 km for her surgery for endometrial hyperplasia. After surgery, she told me her life had changed as she could now concentrate on her handloom business. Before surgery, she had to shut down her business due to irregular, heavy menstrual bleeding which had been ongoing for six months and made it difficult to focus on caring for her family.

I also appreciated witnessing how a health system catering to a large catchment area can function efficiently with limited resources. This experience broadened my understanding of how cultural beliefs affect disease perception and decision-making regarding the management of gynaecological conditions. Many women prefer definitive solutions to their symptoms and, once their families are complete, opt for a hysterectomy over conservative management for conditions like abnormal uterine bleeding due to fibroids. Their decision-making is influenced by both cultural beliefs and logistical barriers to healthcare.

Being awarded the fellowship has enriched my professional and non-clinical skills and provided insights into healthcare resource utilisation in settings where resources are limited. I am grateful to the RANZCOG Women's Health Foundation and aim to apply these skills in my practice in Australia, fostering continuous learning and innovation.

Insights from Research Grant Recipient: Dr Fiona Li

Kim McInnes
Membership and Engagement, RANZCOG

Dr Fiona Li
MD, PhD

Dr Fiona Li, Recipient of the New South Wales State Committee Trainee Research Grant 2023

Dr Fiona Li is a third-year FRANZCOG trainee at the Royal Hospital for Women in Sydney. She is pursuing a PhD on the management of postmenopausal vaginal symptoms, reflecting her interest in menopause and its impact on women's health. Through her research, Dr Li aims to break down barriers, encourage open conversations, and raise awareness to empower individuals navigating menopause.

In addition to her research, Dr Li serves as the RANZCOG Trainee Representative for New South Wales and is a member of the Research Assessment Subcommittee. She is passionate about advocating for trainee wellbeing and improving the quality of obstetrics and gynaecology training and education.

Dr Li's Research: Exploring Patient-Centred Approaches to Menopausal Care

Vaginal symptoms associated with menopause affect up to 50% of women during their lifetime, significantly impacting quality of life. However, unlike systemic menopausal symptoms such as hot flushes, women may hesitate to seek medical help for vaginal symptoms due to stigma and negative perceptions. The primary treatments include topical hormone therapies; however, many women experience application difficulties, limited symptom relief, or fears about hormone use—particularly those with a history of hormone-sensitive cancers.

Since 2012, vaginal energy-based treatments* have become increasingly accessible, but evidence for their use is limited. Dr Li's project investigates women's preferences and the acceptability of different treatments for managing these symptoms—an area that has not been explored before. The goal is to understand what matters most to women and promote patient-centred care. This project is the final part of my PhD which has been a deep dive into energy-based treatments, like laser, for vaginal symptoms associated with menopause.

Participants reported that effectiveness, cost, administration, hormone and the service provider were considerations in their decisions around care. The final data will help us to understand what is most important to women and help clinicians to provide better counselling and care. This funding supports novel research in gynaecology – an area that is historically underfunded. Ongoing research in women's health is crucial in closing the gender gap for health outcomes. I hope to continue to contribute novel findings to help clinicians provide individualised and evidence-based medical care.

Rewards of the Trainee Research Grant experience

This project has fostered a new collaboration between our clinical team at the Gynaecological Research And Clinical Evaluation (GRACE) Unit at the University of New South Wales with the health economics team at the Centre for Health Economics Research and Evaluation at the University of Technology Sydney. We hope this collaboration will be ongoing so we can continue to understand patient preference and treatment acceptability in gynaecology and in healthcare. The New South Wales State Committee Trainee Research Grant has given me financial support to realise this final part of my PhD, and to further my journey as an early career researcher and clinician. The primary goal of this project is to promote patient-centred and evidence-based care. In gynaecology, where research has historically been disadvantaged in funding, it is even more crucial to promote research in women's health and close the gender gap in health outcomes, and this project contributes to that mission.

*In December 2024, the Therapeutic Goods Administration (TGA) announced that it had completed a post-market review of all energy-based devices used for vaginal rejuvenation included in the Australian Register of Therapeutic Goods (ARTG). The review found there was insufficient clinical evidence to support the therapeutic use and long-term safety of these devices. All energy-based devices intended to be used for vaginal rejuvenation sold in Australia have now been cancelled from the ARTG by the TGA or the sponsor.

Dr Val Chaffer: Centenarian Obstetrician Gynaecologist, Childbirth Education Pioneer, and the Original Medical Mum

Dr Melanie Thompson
MBBS (Hons), FRACP, MPHTM

Dr Val Colley (nee Chaffer)
MBBS, FRACP

Dr Val Colley (nee Chaffer who was known professionally by her maiden name) graduated from The University of Sydney in 1947 and went on to become a key obstetrician gynaecologist in Adelaide. She recently celebrated her 100th birthday. This article, which is based on a series of interviews, offers insight into the evolution of obstetrics and gynaecology over the past century.

Tell us about your early life.

Our family lived at Chum Creek, near Healesville in Victoria. My father worked in the general store. He was self-taught, educating himself using the town's first crystal radio.

My sister was the smallest premature baby at the time. She was kept alive, wrapped in cotton wool. My grandmother, Eleanor Lucas, who founded a clothing factory in Ballarat, kept her alive with droplets of whisky. Three years later, when my mother had me, she endured a grinding three-day posterior labour. As a result, she had deep vein thrombosis and was bedridden for three months with sandbags so she couldn't move her leg. I think she was depressed for a long time after this.

I walked three miles to the one-room school, from the age of three and a half because I wouldn't stay home. The teacher gave me a nursery rhyme book, but I got bored so I would learn whatever went on with the classes. I was treated like a boy by my father, given a tomahawk and allowed to roam around on my own in the bush.

When I got into high school—the first child in the family to do so—the history teacher told me, "Val, your writing is like the peregrinations of an inebriated fly!"

What was university like?

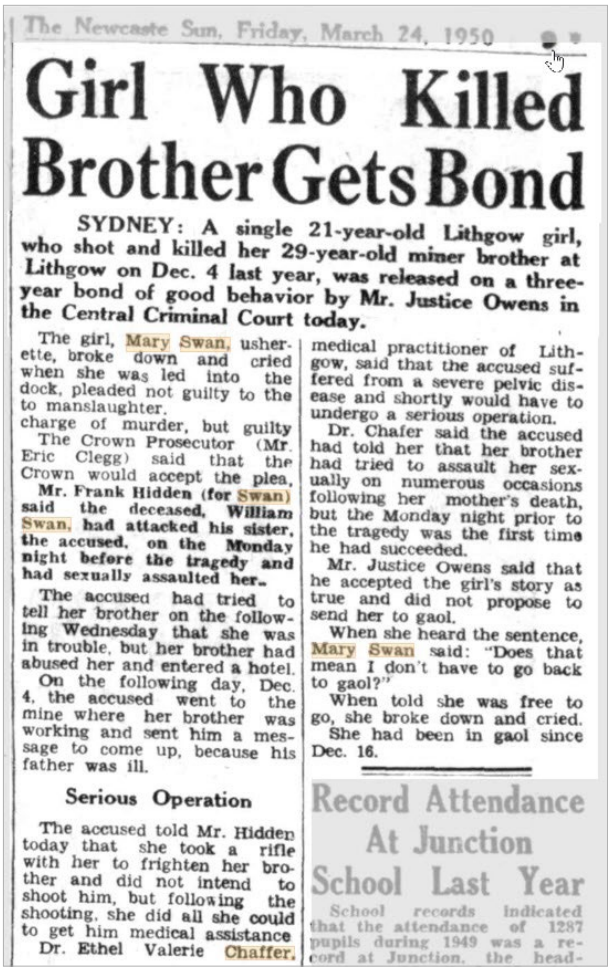
I went to the University of Sydney in 1942. My mother was worried because she had heard about the Japanese submarines in Sydney Harbour. We did the six-year course in five years by not having holidays, because they wanted to get doctors through faster. I would never have gone to university without the Commonwealth Scholarship.

There were 250 students but only 50 women. No, I did not feel sexism in the course, but the minute we got out into the real world, that is when it hit.

I had made up my mind that I wasn't going to marry a doctor, because if you did, you stayed home and did the domestic work while your husband was out there doing interesting things.

Graduating Class of the University of Sydney, 1947. Dr Val Chaffer is pictured in the second row, sixth from the left


CAPTION HERE



The Newcaste Sun, Friday, March 24, 1950

Girl Who Killed Brother Gets Bond

SYDNEY: A single 21-year-old Lithgow girl, who shot and killed her 29-year-old miner brother at Lithgow on Dec. 4 last year, was released on a three-year bond of good behavior by Mr. Justice Owens in the Central Criminal Court today.

The girl, Mary Swan, usherette, broke down and cried when she was led into the dock, pleaded not guilty to the to manslaughter, charge of murder, but guilty

The Crown Prosecutor (Mr. Eric Clegg) said that the Crown would accept the plea,

Mr. Frank Hidden (for Swan) said the deceased, William Swan, had attacked his sister, the accused, on the Monday night before the tragedy and had sexually assaulted her.

The accused had tried to tell her brother on the following Wednesday that she was in trouble, but her brother had abused her and entered a hotel.

On the following day, Dec. 4, the accused went to the mine where her brother was working and sent him a message to come up, because his father was ill.

Serious Operation

The accused told Mr. Hidden today that she took a rifle with her to frighten her brother and did not intend to shoot him, but following the shooting, she did all she could to get him medical assistance

Dr. Ethel Valerie Chaffer, medical practitioner of Lithgow, said that the accused suffered from a severe pelvic disease and shortly would have to undergo a serious operation.

Dr. Chafer said the accused had told her that her brother had tried to assault her sexually on numerous occasions following her mother's death, but the Monday night prior to the tragedy was the first time he had succeeded.

Mr. Justice Owens said that he accepted the girl's story as true and did not propose to send her to gaol.

When she heard the sentence, Mary Swan said: "Does that mean I don't have to go back to gaol?"

When told she was free to go, she broke down and cried.

She had been in gaol since Dec. 16.

Record Attendance At Junction School Last Year

School records indicated that the attendance of 1287 pupils during 1949 was a record at Junction, the head-

Lithgow Girl Released On Bond Following Manslaughter Charge

SYDNEY, This Afternoon. — Sensational statements were made in Central Criminal Court this morning when Mr. Justice Owen released 21-years-old theatre usherette, Mary Swan, after she had pleaded guilty to the slaying of her coalminer brother in Macauley-street last year.

The girl wept bitterly in court when she told the judge her brother had forced her to have sexual relations with him.

Mary Swan pleaded guilty to the manslaughter of her brother, William Swan, aged 29 years, on November 16.

Mr. Justice Owen committed her to the care of the Rev. Douglas George Coles, senior welfare officer of the Presbyterian Church, and ordered her to enter into a good behavior bond of £100.

The Rev. Coles undertook to place the girl in one of the church's institutions, and to arrange medical treatment for her. He will also arrange for the girl's five-years-old daughter to be cared for.

Mr. Frank Hidden, Miss Swan's Barrister, said he understood her father was angry at her for telling the story, and would not put up the surety.

After speaking to the girl's solicitor, Mr. Ian L. Higgins, of Lithgow, he told Mr. Justice Owen the surety could be arranged.

Miss Swan, neatly dressed in a brown Donegal tweed suit and blue beret, sat in the dock sobbing and holding a policewoman's hand. She frequently dabbed her eyes with her handkerchief.

Senior Det. Const. W. J. Heron, of Lithgow, said that Miss Swan had been keeping house for her father and brother since her mother died about three years ago, and was also working as an usherette at the Trades Hall Theatre.

She had a five-year-old child. "She has a good disposition, no criminal record and does not associate with the criminal class," he added.

"After the shooting she would not tell me why she had shot her brother, but said she might tell me if her brother died. After he died she still would not tell me the reason."

GIRL'S POIGNANT STORY

Questioned by Mr. Hidden, Miss Swan said that she was alone at home on the Monday before the shooting.

Mr. Hidden: "Did your brother come home?"

Miss Swan: "Yes, and he gave me a hiding."

Mr Hidden: "Did he do anything then?"

Miss Swan (weeping): "On Monday afternoon my brother—oh, I can't find words for it."

Mr. Hidden: "Did he try to interfere with you sexually?" "Yes."

Mr. Hidden: "Had he tried to interfere with you before?" "Yes."

Miss Swan said she realised she was "in trouble" and tried to see her brother, but he would not speak to her. She said she saw him on the Wednesday night, but he would not talk to her and went into a hotel with another man.

Mr. Hidden: "You got a gun, went to the mine where you brother worked, and sent a message to him that his father was very ill?"—"Yes."

Mr. Hidden: "Was your intention to shoot him?" "No, I only wanted to scare him and protect myself."

Mr. Hidden: "Did you endeavor to get help for him when he was shot?"—"Yes."

Dr. Ethel Chaffer, an assistant to the Commonwealth Medical Officer at Lithgow (Dr. G. A. Williams), said she had been treating Miss Swan for several months and said she was requiring an operation. She suffered nervous disorders only as a result of her environment, she added.

Mrs. Jean King, who lives next door, said: "On the Monday night Miss Swan came to our place and told me of the trouble she had with her brother. Miss Swan told me her brother punched her in the back, and when she was coming into our place, threw a brick at her."

Miss Hollier, a social worker for the Methodist and Congregation Churches in Sydney, said Miss Swan had told her "for some time her brother had made improper advances to her."

"She told me that on the Wednesday before the shooting she found she was 'in trouble' and tried to tell her brother."

Mr. Justice Owen told the girl: "I do not propose to sentence you to imprisonment. You have already been in gaol for three months.

"I am prepared to release you on a recognisance of £100 to be of good behavior for three years.

"If you are not of good behavior during that period you will be brought up for sentence before this court."

Principal Awards In To-day's Lottery

SYDNEY, This Afternoon. Major prizes in State Lottery 2028, drawn this morning, were won as follows:—

First: "One White Horse" syndicate, E. Scott, c/- G.P.O., Sydney.

Second: "Wise" syndicate, H. Mack, c/- railway Station, Temps.

Third: "3141" syndicate, Mrs. Dunlop, 335 Liverpool-road, Ashfield.

Fourth: "Hope" syndicate, G. Buckland, c/- Parliament House, Sydney.

Fifth: "Wee Three" syndicate, c/- W. Gall'n, Celco Manufacturing Company, West Ryde.

First Prize, £6,000—66,874

Second Prize, £1,000—64,412

Third Prize, £500—71,604

Fourth Prize, £350—66,906

Fifth Prize, £200—18,822

TEN PRIZES AT £100

39253 40220 46336 48069 50519
51571 70157 80466 83287 85773

TEN PRIZES AT £50

3581 14557 20774 23675 42573
51786 54004 56396 58662 97632

DREAMS COME TRUE !

KATOOMBA, Thursday.—The Blue Mountains County Council

Sydney Morning Herald clippings of Dr Val Chaffer's testimony in manslaughter case

What were your early years of training like?

I started at Prince Alfred where they kept giving me all the surgical rotations—orthopaedics, ear nose and throat, men's urology, which I found dreadful! Gynaecology I did do, but they still did not give me obstetrics. In my second year, they gave me neurosurgery which was very exciting and wonderful.

I was headhunted to a general practice in Lithgow in New South Wales. As a GP, I had a maternal death that I never got over. The woman delivered precipitously and had a massive haemorrhage. I found out later that she had been to an illegal provider of abortions numerous times, likely sustaining a ruptured uterus from the damage.

One weekend, a doctor in a smaller town rang me to say he had a woman in labour with her 13th baby who could not birth. He asked me if I would take her. I had enough training to know that she had a brow presentation of a big baby, the baby was not alive, and she had stopped labouring. I knew you did not do a caesarean section on a dead baby, so I rang the Crown Street Women's Hospital in Sydney, and Dr Reg Hamlin answered the phone. He asked me to send the woman to him. The following day, he called and said, "She's safely delivered. And do you want a job?".

So, you resigned and went?

Yes. Crown Street was the most drastic and odd hospital. It had greatest number of deliveries in the Southern Hemisphere at that time. Dr Reg Hamlin was the kindest, loveliest person, but he was an extremely hard taskmaster as far as work was concerned.

At the time, eclampsia was the biggest threat to childbirth. Dr Reg Hamlin began to associate it with rapid weight gain, and younger mothers. He would check every night after outpatients, and if he saw someone in that category, he would admit them to a special pre-birth ward and put them on bedrest. One of my most awful jobs was to sedate them with paraldehyde to keep their blood pressure down to reasonable limits. It was a painful, 10ml, awful injection into the backside but the paraldehyde sedated them safely, and Dr Hamlin never had a case of eclampsia in a booked patient.

Dr Catherine Nicholson, who was a resident a year ahead of me, eventually became connected with Dr Hamlin, 15 years her senior. There is a nice little love story that went on over years. They tried to keep it secret, but everybody knew what was going on. And they went on to do fabulous work in fistula care.

Dr Hamlin was the absolute master of manual removal for a retained placenta. The first time I ever did it, while I was still a student, I thought I was removing the liver. He was also able to rotate a posterior delivery by simply putting a hand on the woman's abdomen, finding a shoulder and turning it manually! I could never do it, even though I tried!

Sydney Unitversity co-conspirators (circa 1990) Dr Val Chaffer and Catherine Hamlin

How did you meet your husband?

I was bridesmaid for my friend Betty and her cousin Ken was at their wedding. I did not notice him much. Their grandfather said "Ken, get the girls a drink." So, Ken opens a cupboard and brings out the silver goblets, puts wine in them, and gives them to Betty and me, and they had moths floating in it! It was not the best first impression.

I have never been able to explain it, but by the time I left the wedding, we assumed we were going to get married. I knew him for a year before I got married. I was a career person and Ken said he was perfectly happy to support me. I said I married Ken because I was convinced of his essential goodness, full stop.

I got pregnant on my honeymoon. I had an image of what a baby was going to be, but she was not like that at all. I only breastfed one of my five babies properly, and it is hard to explain, you have got to start off right from the beginning or it does not gel.

Ken got a fruit and vegetable shop in Adelaide, which was something he had never done. We moved to Adelaide when my fourth child was only six weeks old. Ken went over in the car with our eldest, and I went on the train with the baby in the carrycot and the two others.

What was your life in Adelaide like?

I set up practice in a two-storey house just across the road from Lyell McEwin Hospital.

Ken was really busy, up early to go into the markets. I found a nice lady to care for my home and later other housekeepers. All the children remember having to wait for me, either because I was doing home visits and they were in the car with me, or waiting to be picked up, and they were the last children to be picked up.

I planned the surgery with some special things in mind, like how people do not like to be grouped. I learned that privacy was important and made sure only essential questions were asked at the reception desk.

When my daughter reached year six, the school asked the local female doctor to come and do the puberty education. And of course, I practiced in my maiden name. Her friends realised it was me, and she was mortified to have her mother up on stage talking about embarrassing things.

Later, my next daughter came home from school and said, "The nuns said you can get pregnant from a doorknob." I stopped, then said, "Depends what you do with the doorknob!"

Where did you go with obstetrics?

My whole reason for being an obstetrician was to have women be in charge as far as they possibly could, and to have no fear about their childbirth. The English obstetrician, Dr Grantly Dick-Read, had introduced relaxation for childbirth. I remember reading his book while I was at Crown Street Women's Hospital. Textbooks did not tell women how it felt to have a baby. I was always very annoyed with the textbooks!

> *"My whole reason for being an obstetrician was to have women be in charge as far as they possibly could, and to have no fear about their childbirth."*

Dr Grantly Dick-Read recognised that fear was the greatest inhibitor of labour. I did not like medicalisation, especially of childbirth. I always wanted to let the body do the job that it was intended to do. If you left it alone it did very well. My philosophy was "keeping normal things normal".

Then came another system called psychoprophylaxis – a special breathing in stages of labour. That came out of Russia, because most of the doctors in Russia were women interestingly enough. Dr Fernand Lamaze was the person who wrote this stuff up. I got physiotherapists who understood the Lamaze to help teach the breathing to a lot of intelligent women, and to the husbands if they wished, to be prepared and come into the labour ward as well. Unbeknownst to me, it was illegal in the hospital for husbands to be present at the birth.

I remember the first woman who used this technique, she had the most beautiful delivery I have ever seen. The next day, I was summoned to the office of the secretary at the hospital, a bloke saying, "You can't do that (have husbands present at birth). Any husband who wanted to be with his wife in the labour ward was either abnormal, or indecent." Now I have gotten angry a few times in my life, and when I get angry, something happens. I got the head sister (nurse/midwife) of the labour ward onside. Before too long, we had husbands in the labour ward.

In 1963, I started the Childbirth Education Association. This group formed a hub for prenatal education. I discovered that around Australia that there were various organisations to help people cope with labour. We ran classes, but instead of having professionals doing it all, the mothers did the training. They had professional input from a couple of the leading gynaecologists in the town, plus me. I have always approved of people doing it for themselves with some professional help, but not the professionals being 'boss' of everything, because that takes away independence.

It was not about feminist thinking—It was not. It was just to do with the fact that knowledge drives out fear. If you take the fear out of it, you take most of the pain out of it, but of course there were lots of other ways. Later, I worked with hypnosis during the childbirth experience. In middle age, I went out and did a course in transcendental meditation, and laughed and said, "I know how to do this anyway!"

Portrait of Dr Val Chaffer, submitted to the Archibald Prize 1947 by Molly Johnson

And you had some other battles?

Of course, all the time. Isn't it funny that all my life I never believed that I am an angry person? At one point, I was told we would not have the sisters (nurses) do smears. I insisted that they were better than many doctors, because they were much fussier and more responsible. I held out, and the board said I couldn't do that. I was told, "You'll have to ask the head of unit." That was my friend, and I told him, "You're not going to stop me!" That bloke knew that if I believed in it, I would do it no matter what. And so I did.

One day, while scrubbing in theatre, I said to my colleague, "I'm going to work at Elizabeth Women's Health Centre." The other woman doctor said, "What? That bunch of lesbians?!" The gynaecologist who knew me really, well laughed, and said, "Ha! They don't know they've got a tiger by the tail!". I reckon that was the best compliment I have ever been given, because he knew that when I got into doing something that I fiercely believed in, I just did it. The Elizabeth Women's Centre (Adelaide) would give me an hour to work with someone, which meant that I could do everything. I would do their smears and their breast checks, and then I would have time to go into other things, like worries, strategies for headaches, relaxation techniques, eventually I ran a meditation group there one day a week.

When something new comes into the medical orbit, it takes around 15 years to accept, and I could get quite rude about that and say it must be accepted, because everybody is doing it anyway by that time. A lot of these ideas about self-help and alternative medicine—if you are not trained in it, you can be suspicious about a lot of those preparations. But then there have been civilisations and generations of people who have done their medicine differently. Whether it is Native American Indians, or Ayurvedic medicine in India, or those in China with acupuncture and Chinese medicines, they are valid medicines, but Western medicine has difficulty swallowing that. Most importantly, if you have a doctor who really listens to you, and knows where you're at, you will do better with that person and you will get better quicker. There's a lot of literature about this.

Do you think of yourself as being a political person?

No. Political only in the sense of believing in empowering people to take charge of themselves. I was apolitical, except for when women's issues were concerned.

Tell us about non-medical interesting things about your life.

My portrait was entered into the Archibald Prize 1947. Molly Johnson, who attended the Heidelberg School in Melbourne, painted it. And I had a chess move named after me. I had this old gentleman who invented a special chess move. He dedicated this chess move to Dr Chaffer, which was very embarrassing!

What have been your greatest joys?

Oh, I would have to say the children. Practice was marvellous. Okay, work and children.

Dr Val Chaffer (Colley) celebrated her 100th birthday in September, with her five children and ten grandchildren. Her deafness now makes things tricky, but she continues to enjoy a glass of bubbles, her view of an expansive garden and the ability to laugh. Her writing remains atrocious.

Dr Melanie Thompson is a paediatrician in the Kimberley and did not know much about her legendary Great Aunt until medical school.

Editorial

Dr Talat Uppal
MBBS, FRANZCOG, DDU, FAAQHC, FACHSM

Navigating the Complexities of Early Pregnancy

Early pregnancy is a time of hope and anticipation, but it can also bring unexpected challenges. For many it carries a heavy emotional toll, as the excitement of new life is often accompanied by anxiety, uncertainty, and, in some cases, profound loss. In this issue of *O&G Magazine—Early Pregnancy*—we explore the spectrum of experiences and clinical challenges that can arise during this critical period.

Early Pregnancy loss (EPL) can be a significantly challenging experience, affecting approximately one in four pregnancies. Despite its prevalence, societal silence surrounding EPL often leaves individuals and families navigating their grief in isolation.

In this issue we profile Samantha Payne, co-founder and CEO of the Pink Elephants Support Network. After experiencing two miscarriages, Samantha channelled her personal grief into a mission to support others experiencing EPL. The organisation provides resources and peer support to ensure no one faces this journey alone.

This dedication to supporting those impacted by EPL is echoed in an article on the Early Pregnancy Loss Coalition (EPLC). The EPLC was founded by journalist and author *(Hard to Bear: Investigating the Science and Silence of Miscarriage)* Isabelle Oderberg, who has also experienced multiple miscarriages, alongside Miscarriage Australia co-founders Dr Jade Bilardi and Associate Professor Melanie Keep. The EPLC advocates for improved care, communication, data collection, and research related to EPL. RANZCOG is a proud member of the EPLC, supporting its mission to enhance care and support for those affected by EPL.

This issue of *O&G Magazine* also explores medical advancements that continue to shape early pregnancy care. One article examines high-resolution transvaginal ultrasound, a crucial tool in detecting conditions such as caesarean scar pregnancies—a rare ectopic pregnancy where the embryo implants within a previous caesarean section scar. Early detection is vital for effective management and the prevention of complications.

Another explores the role of progesterone in early pregnancy, unpacking the research findings regarding its potential benefits in cases of threatened and recurrent miscarriage, also comparing the guidelines and recommendations of the Royal College of Obstetricians and Gynaecologists (RCOG) and RANZCOG in this space.

Further expanding our focus, this issue includes a review article and case study on the management of gestational trophoblastic disease, detailing disorders characterised by abnormal proliferation of trophoblastic tissue. Additionally, we provide practical guidance on the management of tubal ectopic pregnancy, offering clinicians evidence-based strategies for optimal care.

Collectively, these articles aim to deepen our understanding of early pregnancy complications, enhance clinical management strategies, and highlight the importance of compassionate, patient-centred care. Whether you are a specialist, general practitioner, midwife, or trainee, we hope this edition of *O&G Magazine* provides both practical insights and thoughtful reflections to support your work in early pregnancy care.

Founding the Early Pregnancy Loss Coalition

Isabelle Oderberg
Journalist, Author and Co-Founder and Chair EPLC

RANZCOG is a proud organisational member of the Early Pregnancy Loss Coalition (ELPC) but what is EPLC, why was it formed and what does it seek to achieve? Co-founder and Chair, Isabelle Oderberg, explains.

Miscarriage has existed since the dawn of time. It is the most common pregnancy 'complication' and almost everyone has been touched by it, whether directly or indirectly. Despite this, a huge number of patients who experience miscarriage aren't receiving adequate care, understanding or referrals, sometimes despite the best intentions of caregivers.

This lack of appropriate care can take many forms; it could be medical practitioners using the word "spontaneous abortion" in front of a patient, or dismissing someone's grief with "don't worry, just go home and try again" and failing to refer them to support services. It could be a patient developing septicaemia because there was retained pregnancy tissue and no one believed them when they said something wasn't right after a dilation and curettage. Or it might be a doctor not making appropriate care options available to their patient, whether through conscientious objection, funding restrictions or personal belief.

As a journalist who's covered this topic for the last eight years, and the author of a book on the topic *(Hard to Bear: Investigating the Science and Silence of Miscarriage)*, it was disarming how easy it was to find patients who had —and were willing to talk about— substandard care that compounded the trauma of their losses[1], sometimes emotionally and sometimes physically.

> *...it was disarming how easy it was to find patients who had experienced – and were willing to talk about – substandard care that compounded the trauma of their losses, sometimes emotionally and sometimes physically.*

EPLC acknowledges that all medical practitioners are operating in an environment that is under-funded and under-resourced. This is something all health advocates must address in our work, and we must also be mindful that we are all on the same side, the side of better care for patients.

We are buoyed by the appetite among policy makers and health leaders to address how issues of medical misogyny have affected quality of care and the desire to address the historic gender imbalance in medical funding, research and understanding.

Research shows us that clinically significant levels of anxiety, depression and post-traumatic stress disorder following miscarriage are common [2-4] and gestational age and other obstetric factors have little association with the level of psychological distress [5-8] .

Following miscarriage, up to 40% of women experience grief of a similar intensity and duration to other major losses [9], including late or perinatal death. Future pregnancies are also often adversely affected due to heightened grief, fear and anxiety during the subsequent pregnancy [10].

Evidence also indicates that positive support experiences can buffer the loss and lead to better psychosocial outcomes [11-12].

Additionally, miscarriage can be a physiological marker for other conditions, including preterm birth and a higher likelihood of heart attack, thrombosis or stroke later in life [13].

Explaining why gaps in care occur for reasons that are structural, cultural or due to a lack of resources wasn't enough. I wanted to come up with a constructive way to achieve genuine, quantifiable change, harnessing the knowledge that no one wants to see patients suffer. I wanted to know I could leave the miscarriage space healthier for the patients to come than when I found it, going through my own seven pregnancy losses.

> *I wanted to know I could leave the miscarriage space healthier for the patients to come, than when I found it, going through my own seven pregnancy losses.*

One challenge that intimidated me the most was convincing doctors that this change was both necessary and achievable. The responsibilities that doctors, nurses and midwives shoulder are immense, and they are often carried out in environments where they are under-resourced and under-appreciated. These pressures have only intensified in the wake of the pandemic, which has placed additional strain on an already stretched healthcare system. As a result, medical practitioners can sometimes react poorly to feedback or input that can be interpreted as criticism.

This is probably the reason that while "lived experience" or "patient representatives" appear repeatedly in strategy documents, sometimes their feedback or constructive criticism can be dismissed without due consideration.

The idea of EPLC was to echo the achievements of lobbies such as those for stillbirth and endometriosis, both of which had united to present a single voice calling for change and outlining a path forwards. Both of these strategies had been effective, and we sought to emulate them.

The structure we deployed was twofold. We have organisational members from across the sector, each represented by a staff-member. We also have policy advisors from across the sector. EPLC is a registered charity and has deductable gift recipients (DGR) status and its running is overseen by a volunteer board.

Miscarriage overlaps many areas of care and involves many practitioners, including but not limited to obstetricians, gynaecologists, fertility specialists, nurses, midwives, GPs, counsellors, psychologists and so many more.

The sector is also in desperate need of research, so we needed to include academics, researchers and so on.

My co-founders and I were cognisant that certain demographics were more likely to experience miscarriage or sub-optimal care, including Aboriginal and Torres Strait Islander peoples, those from lower socio-economic groups, LGBTIQ+ patients, those whose first language isn't English and so on. Getting a diverse range of voices involved in setting the agenda was non-negotiable.

What we have ended up with is a broad coalition of activists, service providers, researchers and experts in their field who can steer our work in a unanimously constructive direction, offering a united voice to government and a forum to bring together all of the people who want to see improvements in order to collaborate, share information and support each other in our work.

Together we need to look at what is needed to effect both short-term and long-term change and improvements. There is low-hanging fruit we can address reasonably quickly (such as more inclusive and empathetic language) and then the more long-term goals, such as the collation of miscarriage data and improvements in frontline care and resourcing.

EPLC was established by me, Dr Jade Bilardi and Dr Melanie Keep. It is now chaired by me, and the Deputy Chair is Elizabeth Chatham. Since its launch in 2023, in an Australian first, EPLC was successful in securing $10 million in dedicated federal budget funding for the miscarriage sector, funding frontline psychosocial support, education and research.

We have made multiple submissions and contributed to final recommendations of inquiry reports. We took part in the first ever national miscarriage roundtable convened by Assistant Minister for Health and Aged Care, the Honourable Ged Kearney, and Senator Marielle Smith. We have appeared at hearings and are contributing to some of the research and project work funded under the government's $10 million package.

The most important aspect of any position that EPLC takes is that it is underpinned by recognised best-practice and peer-reviewed, quality research. While there are gaps in what we know about miscarriage (for instance whether Australian rates are going up or down and whether there are any specific inputs that lead to these results), there is enough work that has been done, both in Australia and overseas, that we can and should be implementing.

In 2024, EPLC received a grant from the Deborah Ganderton & John Henry Sub-Fund (Victorian Women's Trust) to support our strategic planning initiatives. The board met in February 2025 to develop a three-to-five-year strategy to be put to members.

Once this strategy has been approved by key stakeholders—including RANZCOG, an EPLC member—we will make it public and further develop it into a National Miscarriage Roadmap, echoing the path taken to reduce rates of stillbirth and improve education.

The future of better care lies in partnership, collaboration and the centring of lived experience and care for those who need it most. There is much work to do, but EPLC, along with our organisational members and policy advisors, are already kicking goals and can see many more in our short and long-term future.

References

1. Bellhouse C, Temple-Smith M, Watson S, Bilardi J. "The loss was traumatic... some healthcare providers added to that": Women's experiences of miscarriage. Women and Birth. 2019;32(2):137-46.
2. Farren J, Jalmbrant M, Falconieri N, Mitchell-Jones N, Bobdiwala S, Al-Memar M, et al. Posttraumatic stress, anxiety and depression following miscarriage and ectopic pregnancy: a multicenter, prospective, cohort study. American journal of obstetrics and gynecology. 2020;222(4):367. e1-. e22.
3. Lok IH, Neugebauer R. Psychological morbidity following miscarriage. Best Practice & Research Clinical Obstetrics & Gynaecology. 2007;21(2):229-47.
4. Quenby S, Gallos ID, Dhillon-Smith RK, Podesek M, Stephenson MD, Fisher J, et al. Miscarriage matters: the epidemiological, physical, psychological, and economic costs of early pregnancy loss. The Lancet. 2021;397(10285):1658-67.
5. Collins C, Riggs DW, Due C. The impact of pregnancy loss on women's adult relationships. Grief Matters: The Australian Journal of Grief and Bereavement. 2014;17(2):44.
6. Jackman C, McGee HM, Turner M. The experience and psychological impact of early miscarriage. The Irish Journal of Psychology. 1991;12(2):108-20.
7. Neugebauer R, Kline J, O'Connor P, Shrout P, Johnson J, Skodol A, et al. Determinants of depressive symptoms in the early weeks after miscarriage. American Journal of Public Health. 1992;82(10):1332-9.
8. Prettyman R, Cordle C, Cook G. A three-month follow-up of psychological morbidity after early miscarriage. British Journal of Medical Psychology. 1993;66(4):363-72.
9. Brier N. Grief following miscarriage: a comprehensive review of the literature. Journal of Women's Health. 2008;17(3):451-64.
10. Toedter J LJ, Janssen H,. International comparison of studies using the perinatal grief scale: a decade of research on pregnancy loss. Death Studies. 2001;25(3):205-28.
11. Hunter A, Tussis L, MacBeth A. The presence of anxiety, depression and stress in women and their partners during pregnancies following perinatal loss: A meta-analysis. Journal of Affective Disorders. 2017;223:153-64.
12. Hutti MH, Armstrong DS, Myers JA, Hall LA. Grief intensity, psychological well-being, and the intimate partner relationship in the subsequent pregnancy after a perinatal loss. Journal of Obstetric, Gynecologic & Neonatal Nursing. 2015;44(1):42-50.
13. Quenby, Sibohan; Ioannis Gallos; Rima Dhillon-Smith; Marcelina Podesek; Mary Stephenson; Joanne Fisher; Jan Brosens et al. 'Miscarriage matters: the epidemiological, physical, psychological, and economic costs of early pregnancy loss.' The Lancet 397, no. 10285 (May 2021): 1658–1667.

RANZCOG
Excellence in Women's Health

FRANZCOG Selection Applications for 2025

(commence training in 2026)

Applications for FRANZCOG Selection 2025 (2026 intake) for Australia and New Zealand will open on **Friday 14 March 2025**

The regulations pertaining to eligibility to apply for and to commence FRANZCOG training in Australia or New Zealand can be found in the Statement of Principles – Eligibility and Selection Criteria available on the College website. It is expected that applicants will understand the eligibility criteria before applying.

All applications for Australia and New Zealand must be submitted via the FRANZCOG Selection 2025 application form, available on the College website from Friday 14 March to Monday 14 April 2025.

For further information please contact the Selections Team at **trainee_selection@ranzcog.edu.au**

SCAN ME!
For more information on the FRANZCOG Training Program

Caesarean Scar Pregnancy - a Shared Approach

Dr Aparna Ramachandran
BSc(Med), MBBS, FRANZCOG

Caesarean scar pregnancy (CSP) is a rare yet significant obstetric condition that occurs when a pregnancy implants over or within the scar from a previous caesarean section. Although its true incidence remains unclear, CSP appears to be on the rise due to higher caesarean section (CS) rates and improved early pregnancy ultrasound detection [1–3]. Importantly, CSP carries elevated risks of maternal haemorrhage, preterm birth, and, in some cases, hysterectomy. This article explores the definition of CSP, highlights its risk factors, and outlines current management strategies —all crucial for informed decision-making and optimal patient outcomes.

What is CSP?

CSP occurs when a pregnancy implants over a caesarean scar or within a defect or 'niche' following a CS [1]. Because it is an iatrogenic condition (a condition that is the result of another medical treatment), CPS incidence is increasing, largely due to increasing CS rates, enhanced early pregnancy ultrasound techniques, and growing clinician awareness [2]. Despite these developments, the precise incidence remains uncertain [3].

Why is CSP important?

CSP is associated with an increased risk of significant maternal and perinatal morbidity and mortality due to maternal haemorrhage, unplanned hysterectomy and preterm birth[2].

There is a growing understanding that CSP and placenta accreta spectrum (PAS) likely lie on a continuum, given they share risk factors and histological features [4]. Notably, up to 75% of expectantly managed CSPs progress to PAS [5].

What are the major risk factors for CSP?

A history of CS is the primary risk factor for CSP[6]. However, the contribution of the number of prior CS remains unclear[3]. Although some suggest that the technique used to close the hysterotomy could influence CSP development, no optimal method (e.g. single versus double-layer closure or whether to incorporate the decidua to prevent the development of a CS niche) has been definitively identified [3,7].

An interpregnancy interval of less than two years following CS may increase the risk of CSP [8]. Current recommendations for an interpregnancy interval of at least 12 to 18 months following CS [9-11] focus mainly on the risk of scar rupture in labour. Further research is required to determine the impact of this interpregnancy interval on CSP risk.

How can CSP present clinically?

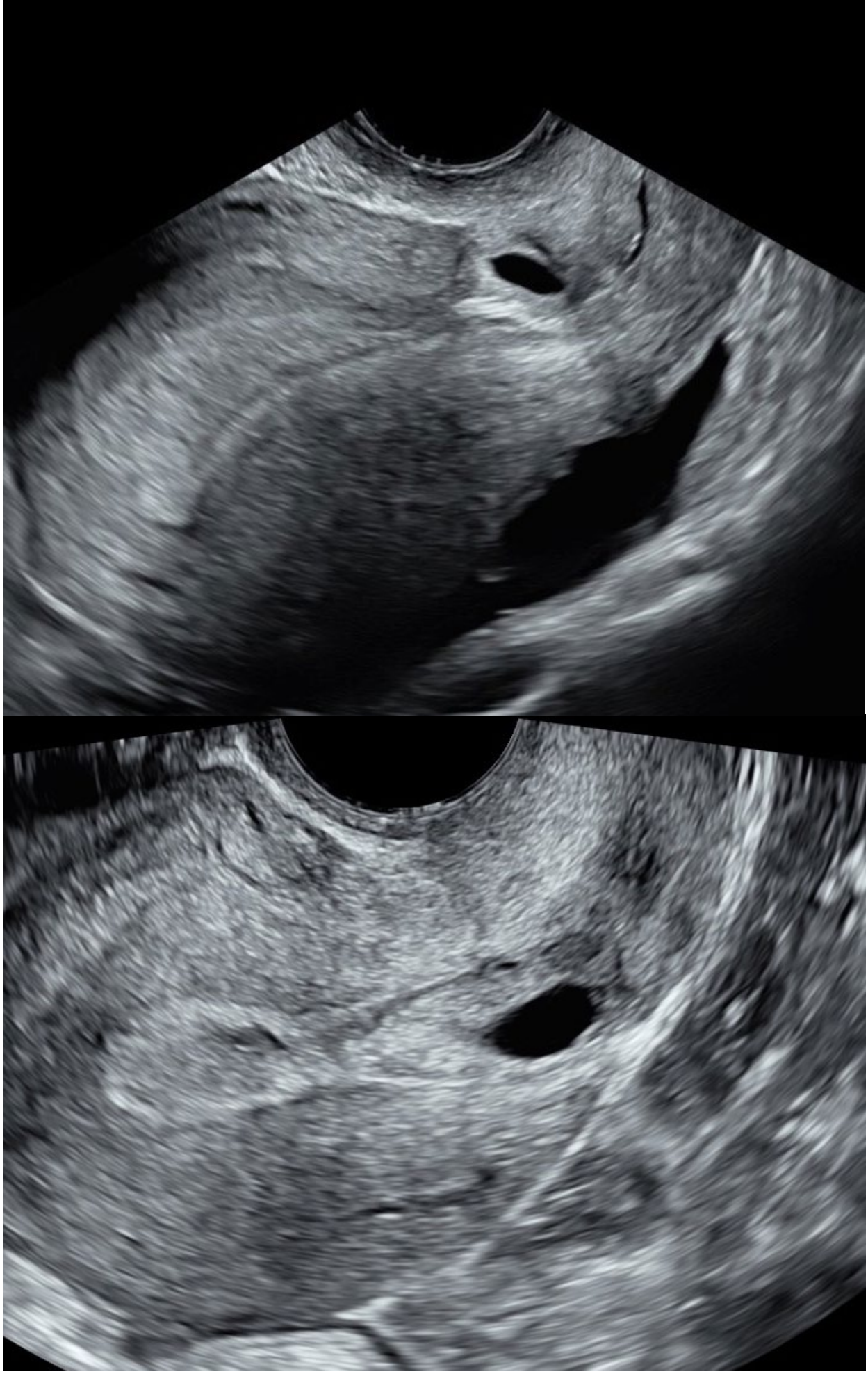
Clinical presentations of CSP vary widely, ranging from asymptomatic cases to vaginal bleeding (with or without pelvic pain), through to severe events such as a presentation with uterine rupture and haemodynamic collapse [2].

How is CSP diagnosed?

Early diagnosis allows timely counselling and management, ultimately leading to lower maternal complication rates [12,13]. Transvaginal ultrasound in the first trimester of pregnancy is currently the gold standard for diagnosis of CSP [1] and ideally should be performed at 5-7 weeks of gestation [6]. This timing is crucial because the ultrasound appearance changes rapidly during early pregnancy as the gestational sac expands.

Several classification systems aim to aid CSP identification and prognosis [14-16]. These systems generally focus on how deeply the gestational sac implants towards an anterior uterine surface or bladder, rather than towards the endometrial cavity. The simplest classification criteria makes a distinction between 'on the scar' implantation (implantation of the gestational sac over a caesarean scar, with residual myometrium between the gestational sac and the anterior uterine surface or bladder) and 'in the niche' implantation (where the sac resides within a niche or defect with thinned myometrium [14] between the gestational sac and the anterior uterine surface or bladder) [6]. The latter scenario carries higher rates of uterine rupture and development of PAS [14].

Importantly, assessing a uterine niche's presence and size is not reliable when a possible CSP is overlying it [1]. Residual myometrial thickness (RMT) at the implantation site can be particularly helpful for prognosis [1], as an RMT under 1–3 mm strongly suggests CSP [2], and an RMT below 5mm is associated with PAS [5].



Images showing 'In the niche' and 'on the scar' implantation of the early gestational sac

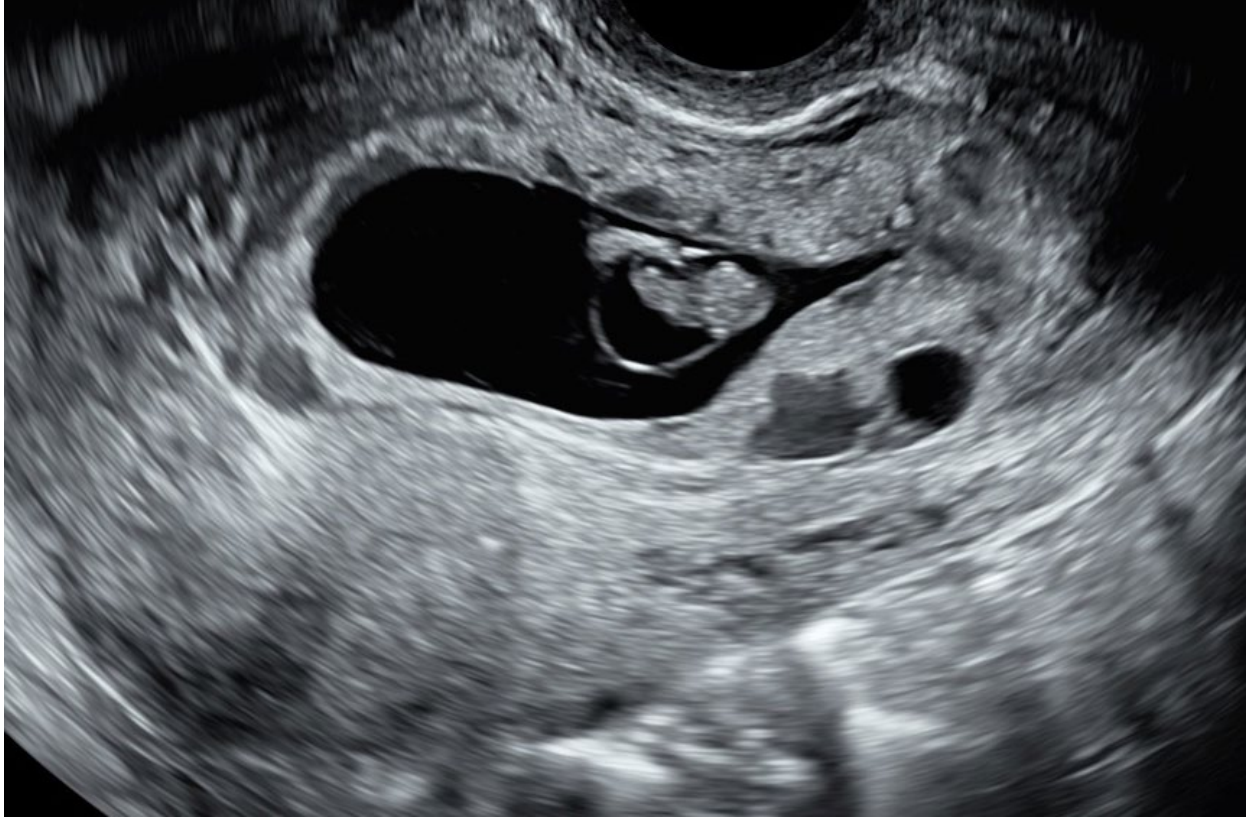


Image of a CSP at nine weeks' gestation with expansion of the gestational sac into the corpus of the uterus, thin RMT and disordered vascularity

Colour flow Doppler may help differentiate a CSP from an evolving miscarriage; however, the value of measuring Doppler flow parameters remains unclear. A miscarriage in progress may also demonstrate 'sliding' or movement of the gestational sac with probe pressure. MRI is unlikely to add to the diagnosis of CSP, particularly in the first trimester [1].

Notably, the usual diagnostic features of CSP are less useful following a classical caesarean section with a midline vertical scar, due the positioning of the gestational sac within the corpus of the uterus [17]; this is a limitation of current diagnostic pathways.

What are the current management options?

Managing CSP is challenging, as there is no standardised management protocol. Historically, termination of pregnancy has been recommended [5]. However, a more contemporary approach emphasises shared decision making, considering the individual features of CPS, likely prognosis, and desired fertility. Carefully considering these factors helps guide women to an informed choice between early termination or continuing the pregnancy.

Factors associated with a lower risk of PAS or uterine rupture include the absence of fetal heart activity; 'on the niche' implantation and an RMT of >5mm [5].

Despite traditional guidance favouring termination of pregnancy, expectant management can be an option in carefully selected cases. Outcomes for expectant management are dependent on the presence of fetal heart activity. In the setting of CSP without fetal heart activity in the first trimester, up to 69% of expectantly managed cases will result in uncomplicated miscarriage; however, there is still a high risk of maternal haemorrhage in 22%, and a need for further surgical or medical intervention in 31% [5]. Importantly, the risk of uterine rupture in the first trimester is considered to be low [5,18].

Expectant management becomes more controversial if fetal heart activity is present, as this is associated with a higher risk of maternal morbidity [2]. CSP with fetal heart activity still carries a chance of miscarriage, which may be complicated by haemorrhage or require surgical intervention. The risk of rupture in the second trimester is approximately 10%; however, this data is from registries with small case numbers. International registry data now shows that, of pregnancies that reach the third trimester, the live birth rate reaches 100%, but 74% have histological evidence of PAS, and 60% of patients require hysterectomy [5]. For expectantly managed CSP with a live fetus, delivery is recommended by planned caesarean section between 34 and 36 weeks' gestation [2], although the likelihood of hysterectomy remains high.

For those who choose to discontinue the pregnancy, earlier intervention results in less need for additional treatments [12].

Historically, gestational sac injection agents to induce embryocide (e.g., methotrexate, lignocaine, potassium chloride) were used with moderate (66%) success in resolving CSP [12]. Notably, systemic methotrexate is no longer recommended [2] as it results in low resolution rates of (59%) and higher rates of complications including methotrexate toxicity, prolonged retention of products of conception with associated delay to return to fertility [12].

Surgical intervention—whether by suction evacuation or excision—offers the highest resolution rates (over 90%) but still carries a risk of haemorrhage and hysterectomy [12]. Double-balloon catheter use has shown similarly high rates of resolution when applied before eight weeks' gestation, although close follow-up is necessary [13]. In cases of severe bleeding, uterine artery embolisation is an established method for preserving the uterus [12].

What is the recurrence risk of CSP?

After CSP resolution, there is no conclusive evidence for the ideal interval before attempting another pregnancy. However, the risk of recurrence is roughly 34% [19]. Consequently, women should undergo transvaginal ultrasound at 6–7 weeks' gestation in any future pregnancy to rule out recurrent CSP.

Whether CS niche repair prevents CSP remains unclear. Some studies show increased RMT after laparoscopic or hysteroscopic niche repair [20], a lower CSP risk [21], and reduced uterine dehiscence rates [20,22,23]. Nonetheless, these findings come from small cohorts with varied surgical techniques, indicating the need for further research.

Conclusion

Although CSP can be potentially daunting, early identification should be viewed as a positive step in early pregnancy care, offering a window for shared decision-making about pregnancy continuation or termination. Early pregnancy ultrasound undertaken by appropriately skilled sonographers and sonologists is crucial in the diagnosis and prognostication of CSP. The contribution of international registries and further research will further refine our understanding of CSP and its management and should allow more accurate prognostication for what is still an under-recognised condition.

Acknowledgements

My thanks go to Dr Glenn Gardener (Director of Maternal Fetal Medicine, Mater Mothers' Hospital) for his guidance in writing this article.

References

1. Jordans IPM, Verberkt C, De Leeuw RA, Bilardo CM, Van Den Bosch T, Bourne T, et al. Definition and sonographic reporting system for Cesarean scar pregnancy in early gestation: modified Delphi method. Ultrasound Obstet Gynecol. 2022 Apr;59(4):437–49.
2. Society for Maternal-Fetal Medicine (SMFM). Electronic address: pubs@smfm.org, Miller R, Timor-Tritsch IE, Gyamfi-Bannerman C. Society for Maternal-Fetal Medicine (SMFM) Consult Series #49: Cesarean scar pregnancy. Am J Obstet Gynecol. 2020 May;222(5):B2–14.
3. Nijjar S, Jauniaux E, Jurkovic D. Definition and diagnosis of cesarean scar ectopic pregnancies. Best Pract Res Clin Obstet Gynaecol. 2023 Jul;89:102360.
4. Timor-Tritsch IE, Monteagudo A, Cali G, Palacios-Jaraquemada JM, Maymon R, Arslan AA, et al. Cesarean scar pregnancy and early placenta accreta share common histology. Ultrasound Obstet Gynecol. 2014 Apr;43(4):383–95.
5. Calì G, Timor-Tritsch IE, Palacios-Jaraquemada J, Monteaugudo A, Buca D, Forlani F, et al. Outcome of Cesarean scar pregnancy managed expectantly: systematic review and meta-analysis. Ultrasound Obstet Gynecol. 2018 Feb;51(2):169–75.
6. Timor-Tritsch IE, Monteagudo A, Calì G, D'Antonio F, Kaelin Agten A. Cesarean Scar Pregnancy: Diagnosis and Pathogenesis. Obstet Gynecol Clin North Am. 2019 Dec;46(4):797–811.
7. Di Spiezio Sardo A, Saccone G, McCurdy R, Bujold E, Bifulco G, Berghella V. Risk of Cesarean scar defect following single- vs double-layer uterine closure: systematic review and meta-analysis of randomized controlled trials. Ultrasound Obstet Gynecol. 2017 Nov;50(5):578–83.
8. Luo L, Ruan X, Li C, Chen S, Hu Q, Mueck AO. Early clinical features and risk factors for cesarean scar pregnancy: a retrospective case-control study. Gynecol Endocrinol. 2019 Apr;35(4):337–41.
9. Royal College of Obstetricians and Gynaecologists. Birth After Previous Caesarean Birth - Green-top Guideline No.45. 2015.
10. Royal Australian and New Zealand College of Obstetricians and Gynaecologists. Birth after previous caesarean section - Best Practice Statement. 2019.
11. The American College of Obstetricians and Gynecologists. Obstetric Care Consensus Number 8 - Interpregnancy Care [Internet]. 2021 [cited 2024 Nov 26]. Available from: https://www.acog.org/clinical/clinical-guidance/obstetric-care-consensus/articles/2019/01/interpregnancy-care
12. Kaelin Agten A, Jurkovic D, Timor-Tritsch I, Jones N, Johnson S, Monteagudo A, et al. First-trimester cesarean scar pregnancy: a comparative analysis of treatment options from the international registry. American Journal of Obstetrics and Gynecology. 2024 Jun 1;230(6):669.e1-669.e19.
13. Timor-Tritsch I, Buca D, Di Mascio D, Cali G, D'Amico A, Monteagudo A, et al. Outcome of cesarean scar pregnancy according to gestational age at diagnosis: A systematic review and meta-analysis. European Journal of Obstetrics & Gynecology and Reproductive Biology. 2021 Mar 1;258:53–9.
14. Agten AK, Cali G, Monteagudo A, Oviedo J, Ramos J, Timor-Tritsch I. The clinical outcome of cesarean scar pregnancies implanted "on the scar" versus "in the niche." American Journal of Obstetrics & Gynecology. 2017 May 1;216(5):510.e1-510.e6.
15. Cali G, Forlani F, Timor-Tritsch IE, Palacios-Jaraquemada J, Minneci G, D'Antonio F. Natural history of Cesarean scar pregnancy on prenatal ultrasound: the crossover sign. Ultrasound in Obstetrics & Gynecology. 2017;50(1):100–4.
16. Lin SY, Hsieh CJ, Tu YA, Li YP, Lee CN, Hsu WW, et al. New ultrasound grading system for cesarean scar pregnancy and its implications for management strategies: An observational cohort study. PLoS One. 2018 Aug 9;13(8):e0202020.
17. ESHRE working group on Ectopic Pregnancy, Kirk E, Ankum P, Jakab A, Le Clef N, Ludwin A, et al. Terminology for describing normally sited and ectopic pregnancies on ultrasound: ESHRE recommendations for good practice. Hum Reprod Open. 2020;2020(4):hoaa055.
18. Silva B, Viana Pinto P, Costa MA. Cesarean Scar Pregnancy: A systematic review on expectant management. Eur J Obstet Gynecol Reprod Biol. 2023 Sep;288:36–43.
19. Timor-Tritsch IE, Horwitz G, D'Antonio F, Monteagudo A, Bornstein E, Chervenak J, et al. Recurrent Cesarean scar pregnancy: case series and literature review. Ultrasound Obstet Gynecol. 2021 Jul;58(1):121–6.
20. Jordans IPM, Vissers J, de Leeuw RA, Hehenkamp WJK, Twisk JWR, de Groot CJM, et al. Change of the residual myometrial thickness during pregnancy in women who underwent laparoscopic niche resection compared with controls without niche surgery: a prospective comparative cohort study. Am J Obstet Gynecol. 2022 Dec;227(6):901.e1-901.e12.
21. Cheng XY, Cheng L, Li WJ, Qian LH, Zhang YQ. The effect of surgery on subsequent pregnancy outcomes among patients with cesarean scar diverticulum. Int J Gynaecol Obstet. 2018 May;141(2):212–6.
22. Goldenberg M, Timor I, Mashiach R, Cohen S, Sasson AM. Pregnancy following cesarean scar defect (niche) repair: a cohort study. Arch Gynecol Obstet. 2022 Nov;306(5):1581–6.
23. Tsuji S, Takahashi A, Higuchi A, Yamanaka A, Amano T, Kimura F, et al. Pregnancy outcomes after hysteroscopic surgery in women with cesarean scar syndrome. PLOS ONE. 2020 Dec 3;15(12):e0243421.

The Role of Progesterone in Early Pregnancy, and its Use in Managing Threatened and Recurrent Miscarriage

Dr James Corbett
MBBS

Professor Boon Lim
MBBS, FRCOG, FRANZCOG

Progesterone: the pregnancy hormone

Progesterone is the hormone produced by the corpus luteum (the remnants of the ovarian follicle that enclosed a developing ovum). It is essential, as it prepares the tissue lining of the womb (endometrium) for embryo implantation. Progesterone is also necessary, as it supports the subsequent development of a pregnancy beyond implantation [2]. The syncytiotrophoblast (a specialised layer of cells in the developing placenta) secretes human Chorionic Gonadotropin (hCG) which is responsible for stimulating ongoing progesterone release from the corpus luteum. The placenta then becomes the dominant source of progesterone after its development from eight to 12 weeks gestation [3,4].

This hormone decreases uterine muscle contractions (contractility of the uterine myometrium) and is also thought to provide an immunomodulatory effect at the interface between the interface of the outer layer of the embryo and the uterine lining during pregnancy (the trophoblast-decidua interface). It is proposed that these combined effects may help lower the risk of miscarriage [3,5].

Progesterone has also been shown to reduce the risk of preterm birth in women with an identified short cervix on mid-trimester ultrasound, or women with a history of previous spontaneous preterm birth [6]. While progesterone levels are used to assess a woman's luteal phase without pregnancy, they are not reliable in defining the fertile level of luteal function. They are also not shown to assess the likelihood of miscarriage or the benefit of administering progesterone in preventing miscarriage [2].

The Epidemiology and Pathology of Miscarriage (Threatened & Recurrent)

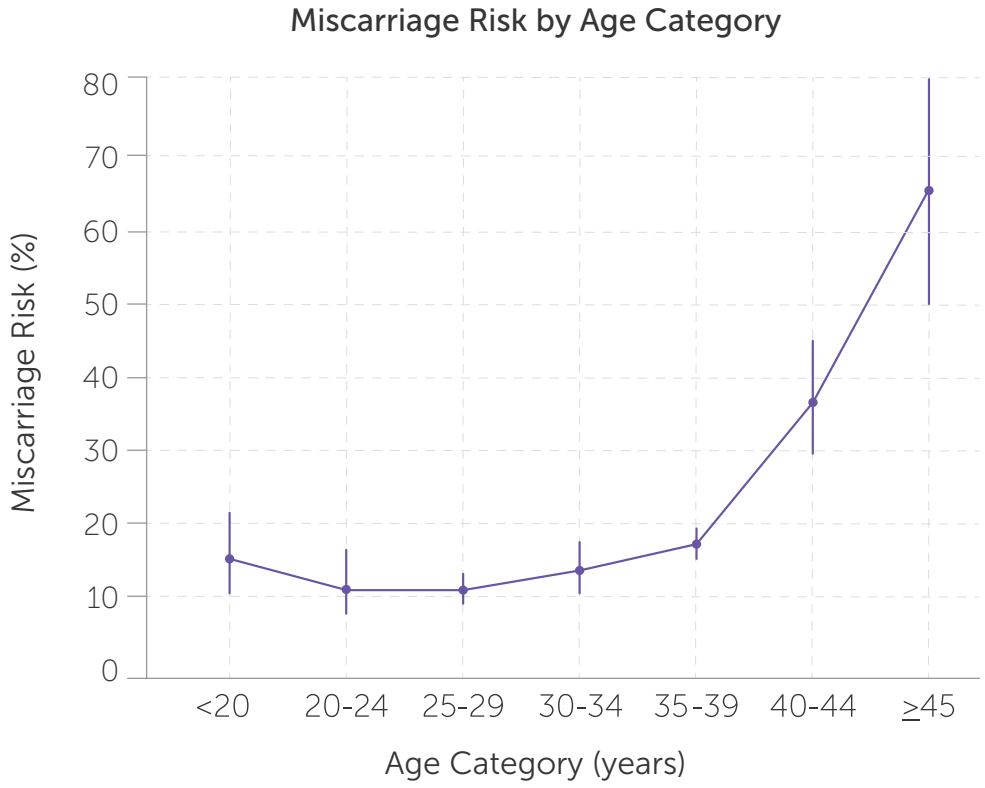
Miscarriage, defined as the loss of pregnancy before 20 weeks gestation [1], carries both physical and emotional risks. In addition to the immediate physical risks of bleeding, infection and potential surgical complications, miscarriage can also result in profound psychological distress for families, increasing the risk of anxiety, depression, post-traumatic stress disorder, and suicide [1].

Miscarriage occurs in approximately 15-25% of all pregnancies [7]. Most cases are considered sporadic, and a result of random chromosomal abnormalities. Recurrent miscarriage is defined as three or more miscarriages (both consecutive and non-consecutive) in the first trimester. Recurrent miscarriage affects 1% of pregnant women—a rate significantly higher than would be expected by chance alone 0.4% [8,9]. Notably, 50% of all recurrent miscarriages have no identifiable cause [3]. Evaluation is warranted after two first-trimester miscarriages if there is clinical suspicion that they are not merely sporadic in nature [10].

Threatened miscarriage, characterised by vaginal bleeding with a closed cervix in early pregnancy, affects 20–25% of pregnant women [5]. Bleeding in early pregnancy has been associated with complications later in pregnancy, such as antepartum haemorrhage (APH), preterm prelabour rupture of membranes (PPROM), preterm delivery, and fetal growth restriction [3].

Multiple medical, anatomical and lifestyle factors influence the risk of miscarriage. Conditions such as diabetes mellitus, hypothyroidism, antiphospholipid syndrome, and acquired or inherited thrombophilia should be investigated in women experiencing recurrent miscarriage. Lifestyle factors include body-mass index (a very low or high BMI), smoking, and alcohol and caffeine consumption.

Maternal age and previous miscarriages significantly increase the likelihood of subsequent pregnancy loss. In Australia, the average maternal age has risen from 30.0 years in 2010 to 31.2 years in 2022, with 27.1% of mothers aged 35 or older [11] (Figure 1).



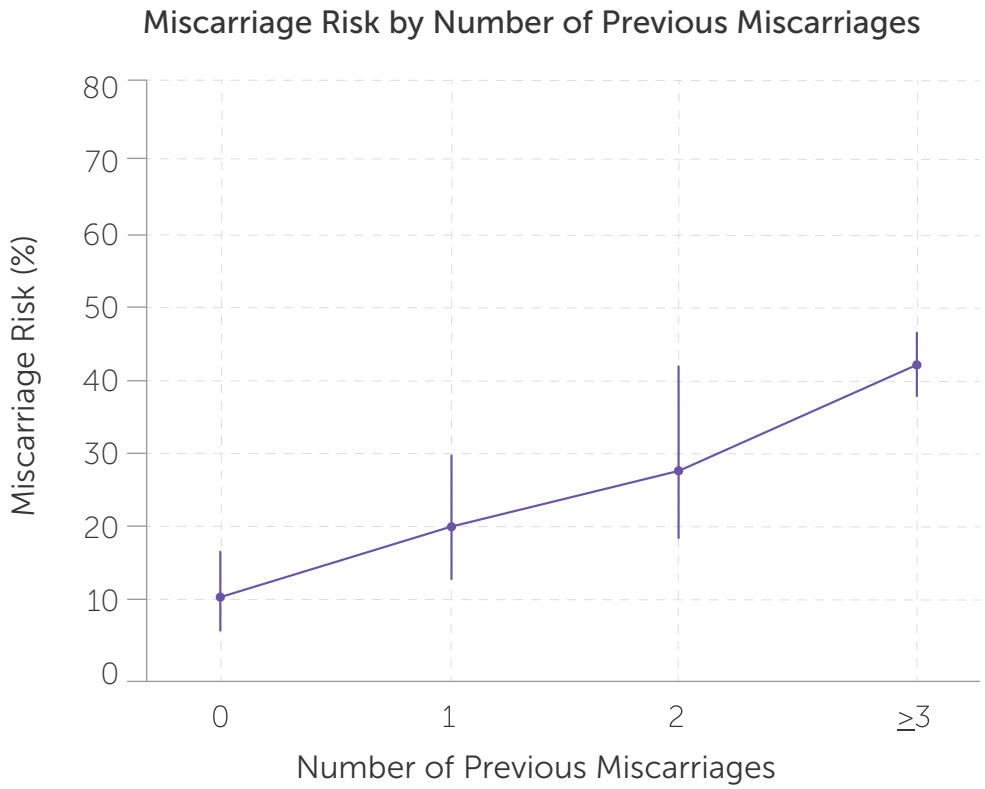


Figure 1. Miscarriage risk by age category and number of previous pregnancies [1]
Source: Quenby et al. *Miscarriage matters: the epidemiological, physical, psychological, and economic costs of early pregnancy loss* published in The Lancet

The Use of Progesterone in Early Pregnancy

Research into progesterone supplementation for preventing miscarriage has produced mixed results. The PROMISE (PROgesterone in recurrent MIScarriagE) trial, conducted in the UK and Netherlands and published in 2015, found that first trimester progesterone therapy in women with a history of unexplained recurrent miscarriages (three or more) provided non-statistically significant benefit in achieving higher live birth rates [3].

The PRISM (PRogesterone In Spontaneous Miscarriage) trial was a multicentre, double-blind, placebo-controlled randomised trial of progesterone in women with early pregnancy vaginal bleeding [4]. It found significant effect of progesterone treatment on live birth rates in a specific group of women - those who had experienced three or more previous miscarriages.

The incidence of live births in women who had no previous miscarriage was 74% in the progesterone group and 75% in the placebo group (RR 0.99 95% CI, 0.95 to 1.04); the incidence among women who had one or two previous miscarriages was 76% and 72% (RR 1.05; 95% CI, 1.00 to 1.12), respectively; and the incidence among women who had three or more previous miscarriages was 72% and 57% (relative rate, 1.28; 95% CI, 1.08 to 1.51) (P = 0.007), respectively, reflecting a significant benefit.

Additionally, there was no significant difference between the progesterone and placebo groups (about 5%) in the occurrence of serious maternal or neonatal adverse events including pre-eclampsia, preterm prelabour rupture of membranes, postpartum haemorrhage, cervical cerclage, intrauterine growth restriction, and many others[4]. Importantly, the proportion of neonatal congenital abnormalities was also equivalent at 3.4% in each group [4].

The dose used in both the PROMISE and PRISM trials was 400mg of micronised progesterone administered twice daily as a pessary, until a gestation of 12 and 16 weeks respectively. It is not yet clear which formulations, routes and timings of administering progesterone may yield the best outcomes, and whether these factors may affect the outcomes of asymptomatic women and those with unexplained recurrent miscarriage. However, the use of a pessary is supported by the immunomodulatory effects of progesterone at the trophoblastic-decidual interface, as it allows for a "first uterine pass" effect, delivering the medication directly to the uterus. Additionally, due to the production of progesterone by the placenta from 12 weeks, progesterone pessaries are thought to offer limited benefit beyond the first trimester, as evidenced by the very low proportion of miscarriages beyond that time.

Institutional Recommendations and Considerations for Practice

Based on this information, the guideline from the United Kingdom (Royal College of Obstetricians and Gynaecologists,2023) suggests consideration of progestogen supplementation in women with recurrent miscarriage who present with bleeding in the first trimester (400mg micronised vaginal progesterone twice daily at the time of bleeding until 16 weeks gestation). The guidelines also recommend that women with unexplained recurrent miscarriage should be offered supportive care, ideally in the setting of a dedicated recurrent miscarriage clinic [10]. The RANZCOG statement also acknowledges progesterone supplementation until the second trimester in women with threatened miscarriage but does not recommend it for recurrent spontaneous miscarriage [12].

Conclusion

Progesterone is a vital hormone for pregnancy. Evidence from high quality randomised trials have shown that administering a dose of 400mg micronized progesterone vaginally BD (twice daily) in early pregnancy is safe for both mother and fetus, with no increase adverse effects. The most significant benefit is observed in women with early pregnancy bleeding who have experienced three or more previous miscarriages.

References

1. Quenby S, Gallos ID, Dhillon-Smith RK, Podesek M, Stephenson MD, Fisher J. Miscarriage matters: the epidemiological, physical, psychological, and economic costs of early pregnancy loss. Lancet. 2021 May 1;397(10285):1658-1667.
2. Practice Committees of the American Society for Reproductive Medicine, Society for Reproductive Endocrinology and Infertility. Diagnosis and treatment of luteal phase deficiency: a committee opinion. Fertil Steril. 2021 Jun;115(6):1375-1383.
3. Coomarasamy A, Williams H, Truchanowicz E, Seed PT, Small R, Quenby S, et al. PROMISE: first-trimester progesterone therapy in women with a history of unexplained recurrent miscarriages – a randomised, double-blind, placebo-controlled, international multicentre trial and economic evaluation. Health Technol Assess. 2016;20(41):1-152.
4. Coomarasamy A, Devall AJ, Cheed V, Harb H, Middleton LJ, Gallos ID. A randomized trial of progesterone in women with bleeding in early pregnancy. N Engl J Med. 2019;380:1815-1824.
5. Zhao Y, D'Souza R, Gao Y, et al. Progestogens in women with threatened miscarriage or recurrent miscarriage: A meta-analysis. Acta Obstet GynecolScand. 2024;103:1689-1701.
6. The Royal Australian and New Zealand College of Obstetricians and Gynaecologists. Progesterone use in the second and third trimester of pregnancy for the prevention of preterm birth. Melbourne: RANZCOG; 2022.
7. Hure AJ, Powers JR, Mishra GD, Herbert DL, Byles JE, Loxton D. Miscarriage, preterm delivery, and stillbirth: large variations in rates within a cohort of Australian women. PLoS One. 2012;7(5).
8. Saccone G, Schoen C, Franasiak JM, Scott RT Jr, Berghella V. Supplementation with progestogens in the first trimester of pregnancy to prevent miscarriage in women with unexplained recurrent miscarriage: a systematic review and meta-analysis of randomized, controlled trials. Fertil Steril. 2017 Feb;107(2):430-438.e3.
9. Li YH, Marren A. Recurrent pregnancy loss: A summary of international evidence-based guidelines and practice. Aust J Gen Pract. 2018 Jul;47(7):439-444.
10. Regan L, Rai R, Saravelos S,Li T-C, on behalf of the Royal College of Obstetricians and Gynaecologists. Recurrent Miscarriage: Green-top Guideline No. 17. BJOG. 2023;130(12):e9–e39.
11. Australian Institute of Health and Welfare (AIHW). Australia's mothers and babies. Maternal age. Last updated 24 Sep 2024. Available from: aihw.gov.au/reports/mothers-babies/australias-mothers-babies/contents/overview-and-demographics/maternal-age
12. RANZCOG. Progesterone support of the luteal phase and in the first trimester. Melbourne: Royal Australian and New Zealand College of Obstetricians and Gynaecologists; March 2018.

An Overview of Recurrent Pregnancy Loss

Dr Ying Li
BSc (Med), MBBS, MBA, FRANZCOG, CREI

Dr Ying Li is the Head of Fertility Department, Royal Prince Alfred Hospital, Medical Clinical Lead Health Informatics, Women's Health, Digital Health and Innovation, Sydney Local Health District.

Introduction

Pregnancy loss is unfortunately a common experience, occurring in as many as 30% of pregnancies [1]. In 2024, the first Australasian Recurrent Pregnancy Loss (RPL) guidelines were released by the Australasian Certificate of Reproductive Endocrinology and Infertility (CREI) Consensus Expert Panel on Trial Evidence (ACCEPT) group. These guidelines summarise the most current evidence on the definition, causes, investigation, and management of recurrent pregnancy loss [1, 2].

Defining Recurrent Pregnancy Loss

Pregnancy loss is defined as the spontaneous loss of a foetus prior to viability. RPL is now defined as two or more losses before 20 weeks of gestation. This aligns with definitions from the American Society of Reproductive Medicine (ASRM) and the European Society of Human Reproduction and Embryology (ESHRE).

Causes, Investigation and management of Recurrent Pregnancy Loss

Many factors and their relationship to RPL have been studied. These include chromosomal errors, anatomical anomalies, thrombophilias, autoimmunity, endocrine disruption, inflammatory issues, endometrial deficits, environmental factors and male factors.

The Role of Aneuploidy in Recurrent Pregnancy Loss

Embryonic aneuploidy (an embryo with an abnormal number of chromosomes) is often implicated as a cause in RPL as it is the most common cause of pregnancy loss in the first trimester. The rate of aneuploidy is directly related to parental age, especially maternal age. Additionally, roughly 4-5% of couples with RPL have a parent with a balanced chromosomal rearrangement, most commonly translocation (a chromosomal abnormality where a segment of one chromosome is transferred to another chromosome without any genetic material being lost or gained). The rate of embryonic aneuploidy in a parent with a balanced translocation is 70-80% independent of age [3].

It is strongly recommended that products of conception (POC) be analysed using molecular methods, either Comparative Genomic Hybridisation (CGH),or Single Nucleotide Polymorphism (SNP) arrays to assess embryonic aneuploidy. It is also recommended that parental karyotypes (a genetic test that examines the number and structure of chromosomes in parents to identify abnormalities such as translocations or inversions) should be part of initial RPL investigations. In parents with chromosomal rearrangements, genetic counselling and pre-implantation genetic testing – structural rearrangement (PGT-SR) should be offered. In parents with normal karyotypes with RPL, preimplantation genetic testing for aneuploidy (PGT-A) may be beneficial and can be discussed with the patients [1,2].

Anatomical Issues and Their Impact

Anatomical issues are either acquired (such as polyps, intrauterine adhesions and leiomyomas) or congenital (müllerian anomalies). There is a higher prevalence of müllerian anomalies in RPL populations [4]. There are also associations of RPL with submucosal and intramural fibroids [5] and intrauterine adhesions [6]. There does not appear to be a strong association between endometrial polyps and increased risks of pregnancy loss [7].

It is recommended that a 3D ultrasound with possible sonohysterogram is an appropriate first-line investigation for anatomical causes of RPL. MRI may also be beneficial. It is noted that combined hysteroscopy and laparoscopy remains the gold standard for investigation of müllerian duct anomalies, but their benefits must be weighed against the invasive nature and potential risks associated with these procedures [1,2].

There is insufficient evidence to confirm that correcting müllerian anomalies leads to reduced pregnancy loss or increased live births. However, well-powered prospective randomised trials that have examined this issue are lacking. Hysteroscopic excision of intrauterine adhesions are recommended as this does seem to increase live birth rates and there is some evidence that resection of submucosal fibroids may lead to improved pregnancy outcomes. This evidence does not seem to extend to intramural fibroids [1,2].

Thrombophilias: Blood Disorders and Pregnancy Loss

The evidence linking thrombophilias to RPL is controversial. There is no strong evidence linking inherited thrombophilias to RPL, while there is better evidence linking acquired thrombophilias to RPL. Acquired thrombophilias especially antiphospholipid syndrome (APS) is strongly linked to RPL[8].

Women with RPL should be screened for APS as per the updated International Consensus Sydney (ICS) criteria. If APS is diagnosed, heparin and low-dose aspirin should be commenced after a positive pregnancy test. Based on the latest evidence, the screening for inherited thrombophilias in the context of RPL is not recommended as there is no strong evidence of either causality or treatment [1,2,9].

Autoimmunity

There are significant changes to the immune system with implantation and subsequent pregnancy. It has been hypothesised that various derangements in the immune system's adaptation to pregnancy is linked to RPL. This includes changes in human leukocyte antigen antibodies function and expression, changes in the type and function of natural killer (NK) cells with more recent interest in uterine killer cell receptors [10].

However, the evidence linking autoimmunity to RPL is conflicting and weak. There are also issues with establishing normal ranges for certain immune system investigations that can change in pregnancy and change within the menstrual cycle.

There is some evidence that the presence of high antinuclear antibody test (ANA) titres (levels of antinuclear antibodies in the blood, which may indicate autoimmune activity) may increase the risk of RPL but there is uncertainty regarding the pattern of ANA and the efficacy of treatment [11].

Investigation for autoimmunity in the context of RPL should be limited to coeliac antibodies in symptomatic patients or those with a strong family history. Immunotherapy in the for RPL is controversial with limited, conflicting evidence of benefit. There are some studies suggesting improvement in live birth in women with RPL of four or more pregnancy losses with no known cause. However, these studies are hampered by small numbers and are limited to certain ethnicities [12]. Other immunotherapies do not seem to demonstrate clear benefits and have potential adverse effects. An individualised approach to immunotherapy is recommended [2].

Endocrine Disruption

Some maternal endocrine disorders have been linked to RPL. These include thyroid disorders, uncontrolled PCOS and glucose intolerance.

Overt hypo- or hyperthyroidism is linked with pregnancy loss and must be treated prior to conception by an endocrinologist. There is some evidence that euthyroid patients with positive thyroid antibodies may have an increased risk of RPL. The management is controversial but either monitoring of thyroid function or treatment with thyroxine can be considered. Subclinical hypothyroidism may be linked to pregnancy loss. There is consensus amongst available guidelines that TSH levels of 4.0 or over should trigger consideration of thyroxine management. It is also recommended, given thyroid function normal ranges are heavily linked to population levels, clinicians are familiar with normal ranges of thyroid function for their specific population [13].

Uncontrolled PCOS has been linked to higher rates of pregnancy loss, though confounding factors such as obesity and insulin resistance make this link difficult to prove[14]. It is recommended that controlling insulin resistance and healthy weight loss aiming for a healthy BMI is offered to patients with RPL[1, 2].

The link of hyperprolactinaemia to RPL is weak but normalising any true elevations in prolactin may be beneficial in RPL[1].

Progesterone supplementation has been hypothesised to enhance endometrial receptivity and thus improve pregnancy loss rates. The studies in the context of RPL is controversial. There may be some evidence that supplementation may improve pregnancy loss in those with three or more previous losses or threatened miscarriage [14].

Inflammation

Chronic endometritis is more common in the RPL population however the evidence for causation is weak. Those with RPL can consider having an endometrial biopsy to exclude chronic endometritis. There is limited evidence that antibiotic therapy may improve live birth rate in the RPL population [2, 15].

Endometriosis and adenomyosis causes chronic inflammation which can affect embryo quality, receptivity and early pregnancy outcomes. There is some weak evidence linking endometriosis to RPL but the link to adenomyosis is tenuous. There is also minimal evidence that resection of endometriosis in the context of RPL is linked to improved live birth rates [2].

Lifestyle and environment

Environmental stressors linked to RPL include endocrine disruptors such as. BPA and phthalates, smoking, and potentially increased exposure to alcohol and heavy metals. Evidence linking caffeine and psychological stress to RPL is inconclusive. However, reducing these exposures may be beneficial. There is also weak evidence to suggest care for patients in a supportive environment may be linked to improved pregnancy outcomes [2, 16].

Male factors

Several male factors have been linked to RPL. These include obesity, environmental exposures, excessive alcohol, smoking and occupational exposures. These can result in poor sperm quality such as elevated DNA fragmentation in sperm [2, 17].

Recommendations for men include minimising toxin exposure (cessation of smoking and alcohol and environmental or occupational chemicals), normalisation of weight, regular moderate exercise and healthy diet should be recommended to all males who have partners experiencing RPL[2].

Those with high DNA fragmentation in sperm can consider antioxidant therapy. Consultation with a urologist can be considered in those with varicocoeles. If conservative therapy is unsuccessful, advanced sperm selection methods in the context of assisted reproduction technologies (ART) can be considered [18, 19].

Unexplained

About 50–75% of cases or RPL remained unexplained. Treatment of these couples is challenging and an individualised approach should be taken [1, 2].

Summary

- RPL is defined as two or more pregnancy losses before 20 weeks.
- Referral to specialised services should be considered.
- Embryonic aneuploidy is a major cause of pregnancy loss. Examination of POC for aneuploidy and screening of parental karyotypes should be performed.
- Managing endocrine conditions may improve pregnancy loss rates.
- Progesterone supplementation may be beneficial.
- Lifestyle modification should be encouraged for the couple experiencing RPL. This includes cessation of smoking and alcohol, and healthy normalisation of BMI.
- Unexplained RPL is common and is a challenging condition to manage.

References

1. Suker A, Li Y, Robson D, Marren A. Australasian Recurrent Pregnancy Loss Clinical Management Guideline 2024 Part I. Aust N Z J Obstet Gynaecol 2024; 1–13 https://pubmed.ncbi.nlm.nih.gov/38934264/
2. Suker A, Li Y, Robson D, Marren A. Australasian Recurrent Pregnancy Loss Clinical Management Guideline 2024 Part 2. Aust N Z J Obstet Gynaecol 2024; 1–14 https://pubmed.ncbi.nlm.nih.gov/38934293
3. Sugiura-Ogasawara M, Ozaki Y, Sato T, Suzumori N, Suzumori K. Poor prognosis of recurrent aborters with either maternal or paternal reciprocal translocations. Fertil Steril 2004; 81(2): 367-73 https://pubmed.ncbi.nlm.nih.gov/14967375.
4. Harger JH, Archer DF. Etiology of Recurrent Pregnancy Losses and Outcomes of Subsequent Pregnancies. Obstetrics and Gynecology 1983; 62(5): 574
5. Kroon B, Johnson N, Chapman M, Yazdani A, Hart R, Australasian CCEPo-Teg. Fibroids in infertility--consensus statement from ACCEPT (Australasian CREI Consensus Expert Panel on Trial evidence). Aust N Z J Obstet Gynaecol 2011; 51(4): 289-95 https://pubmed.ncbi.nlm.nih.gov/21806566.
6. Deans R, Abbott J. Review of intrauterine adhesions. J Minim Invasive Gynecol 2010; 17(5): 555-69 https://pubmed.ncbi.nlm.nih.gov/20656564
7. Elsokkary M, Elshourbagy M, Labib K, et al. Assessment of hysteroscopic role in management of women with recurrent pregnancy loss. J Matern Fetal Neonatal Med 2018; 31(11): 1494-504 https://pubmed.ncbi.nlm.nih.gov/28412850.
8. de Jong PG, Goddijn M, Middeldorp S. Antithrombotic therapy for pregnancy loss. Hum Reprod Update 2013; 19(6): 656-73.
9. de Jong PG, Quenby S, Bloemenkamp KW, et al. ALIFE2 study: low-molecular-weight heparin for women with recurrent miscarriage and inherited thrombophilia--study protocol for a randomized controlled trial. Trials. 2015 May 7;16:208. doi: 10.1186/s13063-015-0719-9. PMID: 25947329; PMCID: PMC4453290.
10. Hiby SE, Apps R, Sharkey AM, et al. Maternal activating KIRs protect against human reproductive failure mediated by fetal HLA-C2. J Clin Invest 2010; 120(11): 4102-10.
11. Cavalcante MB, Cavalcante C, Sarno M, da Silva ACB, Barini R. Antinuclear antibodies and recurrent miscarriage: Systematic review and meta-analysis. Am J Reprod Immunol 2020; 83(3): e13215.
12. Yamada H, Deguchi M, Saito S, et al. Intravenous immunoglobulin treatment in women with four or more recurrent pregnancy losses: A double-blind, randomised, placebo-controlled trial. EClinicalMedicine 2022; 50: 101527.
13. Alexander EK, Pearce EN, Brent GA, et al. 2017 Guidelines of the American Thyroid Association for the Diagnosis and Management of Thyroid Disease During Pregnancy and the Postpartum. Thyroid 2017; 27(3): 315-89 https://pubmed.ncbi.nlm.nih.gov/28056690.
14. Coomarasamy A, Devall AJ, Cheed V, et al. A Randomized Trial of Progesterone in Women with Bleeding in Early Pregnancy. N Engl J Med 2019; 380(19): 1815-24 https://pubmed.ncbi.nlm.nih.gov/31067371.
15. Cicinelli E, Matteo M, Tinelli R, et al. Chronic endometritis due to common bacteria is prevalent in women with recurrent miscarriage as confirmed by improved pregnancy outcome after antibiotic treatment. Reprod Sci 2014; 21(5): 640-7.
16. Clifford K, Rai R, Regan L. Future pregnancy outcome in unexplained recurrent first trimester miscarriage. Hum Reprod 1997; 12(2): 387-9.
17. Cao X, Cui Y, Zhang X, Lou J, Zhou J, Wei R. The correlation of sperm morphology with unexplained recurrent spontaneous abortion: A systematic review and meta-analysis. Oncotarget 2017; 8(33): 55646-56.
18. McQueen DB, Zhang J, Robins JC. Sperm DNA fragmentation and recurrent pregnancy loss: a systematic review and meta-analysis. Fertil Steril 2019; 112(1): 54-60 e3.
19. Smits RM, Mackenzie-Proctor R, Yazdani A, Stankiewicz MT, Jordan V, Showell MG. Antioxidants for male subfertility. Cochrane Database Syst Rev 2019; 3(3): CD007411.

Molar Pregnancies

Dr David Baartz
MBBS, FRANZCOG

Dr Andrea Garrett
MBBS, MSc, FRANZCOG, Dip Pall Care

Shona Morrison
BNurs, RN, Gradcert Nursing (cancer care)

What is Gestational Trophoblastic Disease?

Gestational Trophoblastic Disease (GTD) is a spectrum of pregnancy-related conditions characterised by abnormal proliferation of trophoblastic tissue [1].

GTD includes both benign and malignant conditions. The most common benign entities are Complete Hydatidiform Mole (CHM) and Partial Hydatidiform Mole (PHM). Other benign entities are Exaggerated Placental Site, Placental Site Nodule and Atypical Placental Site Nodule (APSN). APSN is considered a non-malignant condition but may be a precursor to or co-exist with Placental Site Trophoblast Tumour (PSTT) or Epithelioid Trophoblast Tumour (ETT) (in 10-15% of cases [2]). The malignant versions are—Persistent Disease or Invasive Mole, Choriocarcinoma (CC), PSTT, and ETT. Collectively they form Gestational Trophoblastic Neoplasia (GTN). GTN can occur following any pregnancy but is most commonly seen following a molar pregnancy.

Incidence and Risk Factors

Molar pregnancy rates vary worldwide; in Australia it affects approximately 1 in 1,000 pregnancies. Established risk factors include extremes of reproductive age and previous molar pregnancy. Molar pregnancies are also more common in women of Asian descent [2]. The majority of GTN cases arise following a molar pregnancy, the rest can occur following a term pregnancy, miscarriage or ectopic pregnancy.

Features of Molar Pregnancy

CHM are androgenetic diploid conceptions, characterised by hydropic villi, trophoblast proliferation and negative p57 expression. Ultrasound findings show no fetus, heterogenous material with anechoic spaces and ovarian theca lutein cysts. Human chorionic gonadotropin (hCG) levels are often >100,000 and hyperthyroidism may occur. PHM are diandric triploid conceptions, characterised by occasional hydropic villi, minimal trophoblast proliferation and positive p57 expression. Ultrasound will show a fetus is present and the placenta may contain cystic spaces. hCG levels are usually lower.

Diagnosis

CHM is often suspected based on ultrasound findings showing cystic spaces within the endometrial cavity with no fetal pole or parts identified. In PHM, a fetus is present on ultrasound and the diagnosis is usually made during a curettage for a miscarriage or termination. Histological diagnosis is confirmed via suction curettage, which should be performed under ultrasound guidance—especially for suspected CHM—to ensure complete evacuation [3].

As ultrasound scans become more sensitive, curettage is occurring at earlier gestations, making histological diagnosis more challenging as the classic histologic features of molar pregnancies are not always present. Expert pathology review and molecular genotyping may be required for ambiguous cases. After review, the initial diagnosis can be changed in up to 26% of cases [4]. Molecular genotyping helps distinguish between diandric triploids (PHM) and digynic triploids (non-molar triploids) as well as to diagnose other causes of abnormal villous morphology (e.g. trisomy).

Post molar GTN is usually diagnosed during hCG monitoring and does not require histological diagnosis. Performing a hCG level should be considered if a woman presents with abnormal vaginal bleeding following any pregnancy.

Monitoring and Follow Up

Once a molar pregnancy has been diagnosed, hCG levels are monitored until they return a negative result. Monitoring is typically weekly until negative but should occur at least every two weeks. Confirmatory negative testing includes weekly hCG checks for three consecutive weeks or a repeat test one month after hCG normalisation.

For CHM, patients undergo monthly hCG testing for six months (after normalisation). Patients should be advised not fall pregnant during that time. Emerging evidence suggests hCG monitoring may be discontinued once negative if it occurs within 56 days of evacuation [5]. Patients diagnosed with a PHM do not require any further hCG testing (after normalisation) and can pursue pregnancy when desired.

The relapse risk after achieving negative hCG is less than 1%. Factors that increase relapse risk include advanced maternal age and delayed hCG normalisation (beyond 56 days).

FIGO Score	0	1	2	4
Age	<40	>40	–	–
Antecedent pregnancy	Mole	Abortion	Term	
Interval from index pregnancy, months	<4	4–6	7–12	>12
Pretreatment hCG MIU/ml	$<10^3$	$>10^3$–10^4	$>10^4$–10^5	$>10^5$
Largest tumor size including uterus[2] cm	–	3-4	≥5	–
Site of metastases including uterus	Lung	Spleen, kidney	Gastrointestinal tract	Brain, liver
Number of metastases identified	–	1-4	5-8	>8
Previous failed chemotherapy	–	–	Single drug	Two or more drugs

Table 1: WHO scoring system based on prognostic factors modified as FIGO score

Persistent Disease and GTN

Persistent disease occurs in 15% -20% of CHM and after 0.5 - 5% of PHM cases [2]. Persistence is defined as a hCG fall of less than 10% over 3 weeks or a hCG rise by more than 10% over two weeks.

If persistence occurs, imaging is required to exclude metastatic disease. This can include Chest X-Ray (CXR) and Pelvic ultrasound or a computed tomography (CT) scan of the head/neck/chest/abdomen and pelvis.

The World Health Organization (WHO)/International Federation of Gynecology and Obstetrics (FIGO) Prognostic Score is then calculated (see Table 1). A score of six or less is considered Low Risk disease and a score of 7 or more is considered High Risk disease. A score of 13 or higher indicates Ultra High-Risk disease. Whether the patient has low, high or ultra high-risk disease determines the chemotherapy agents used for treatment.

Chemotherapy

Patients with Low-Risk disease requires single agent chemotherapy. This can include Actinomycin D or Methotrexate. The 2016 Cochrane Review and a 2021 meta-analysis report superior efficacy with Actinomycin D, with a higher primary remission rate (80.2% vs 65.1% for Methotrexate), with increased (although acceptable) dermatological and GIT toxicity [6,7]. Actinomycin D is administered every two weeks via an intravenous route. Alternatively, Methotrexate can be given as an intramuscular injection every second day on Days 1,3,5,7 (with folinic acid rescue orally on Days 2,4,6,8) or as an intravenous infusion over 12 hours. Queensland uses Actinomycin D as the preferred first line agent. The bi-weekly administration is more convenient for patients, particularly those living remotely where travel to a chemotherapy facility every second day is not practical.

Patients with high-risk disease require multi-agent chemotherapy. Etoposide, Methotrexate, Dactinomycin, Cyclophosphamide, Vincristine (EMA-CO) is the most used regimen. If patients are extremely unwell low dose induction etoposide-cisplatin (EP) may be commenced first and then changed to EMA-CO when the patient is able to tolerate it [3]. Patients with ultra high-risk disease are commenced on EP/EMA. Immunotherapy agents (ie. Pembrolizumab) are being used in GTD, particularly in cases of resistance or relapse.

Chemotherapy is given in fortnightly cycles until the hCG has reached negative. Once the hCG has fallen to negative, a further three consolidation cycles of chemotherapy are given. hCG testing is performed monthly for 12 months and the patient is advised not to fall pregnant during that time. Any form of reliable contraception is acceptable.

Role of Surgery

Repeat curettage may be required for patients who experience ongoing bleeding with evidence of retained products (as detected on a pelvic ultrasound scan) or if hCG rises with no evidence of metastatic disease. In 60% of cases chemotherapy may be avoided [8]. Repeat curettage should be performed by an experienced clinician to avoid perforation of the uterus or Asherman's Syndrome. Very rarely, even in the event of metastatic disease, curettage may be performed to decrease the burden of disease and the number of cycles of chemotherapy required.

In patients who have completed childbearing, hysterectomy may be performed at the time of diagnosis of a molar pregnancy or once persistence develops. Hysterectomy is the procedure of choice for PSTT and ETT as these entities are less sensitive to chemotherapy.

Resistance and Relapse

Resistance occurs in approximately 30% of patients with low-risk disease and 20% of patients with high-risk disease [1,9]. Resistance is defined as a hCG fall by less than 10% over three weeks or a hCG rise by more than 10% over two weeks whilst undergoing chemotherapy. Patients may need to be re-scanned to assess for progression of metastatic disease. Alternative chemotherapy agents are utilised based on the beta-human chorionic gonadotropin (BhCG) level at the time of resistance. The cut-off value for changing to an alternative agent is constantly being updated.

Treatment adjustments depend on BhCG levels:

- **For low-risk disease:** if BhCG levels are below 1000 IU/L, a different single chemotherapy drug may be used. If BhCG levels are above 1000 IU/L, a combination of multiple chemotherapy drugs is recommended.
- **For high-risk disease:** different combinations of multiple chemotherapy drugs, such as EMA/EP or TE/TP, are used.

There is emerging evidence for the use of immunotherapy agents (i.e. Pembrolizumab) in treating resistant disease. Other treatments such as surgical intervention or radiation therapy may be utilised in cases that are refractory to chemotherapy to achieve remission. Patients with resistant or refractory disease have a poorer prognosis with a five-year survival of only 43% when compared with patients who relapse [10].

Relapse is defined as a rise in hCG after initial normalisation. Relapse can occur at any time following a GTN event. Despite relapse, salvage chemotherapy resulted in a 100% cure rate for low-risk disease and 84% for high-risk disease [10].

Common Pitfalls in the management of GTD and GTN

Histological Diagnosis: Early curettage can obscure classic molar features, necessitating expert pathology review and ancillary testing. After expert pathology review, the initial diagnosis can be changed in up to 26% of cases [4].

hCG monitoring: monitoring should be performed at least every two-weeks, but routinely weekly, to assess the trend of the hCG level. Performing the test more frequently than this leads to confusion in interpretation of the results. It is important to use the same hCG assay each week and patients are encouraged to attend the same laboratory for testing.

WHO Prognostic Score: errors are commonly made in calculating the Prognostic score which can lead to incorrect chemotherapy treatment.

- hCG level at the time of diagnosis of GTN should be used and not the patients initial hCG.
- Confusion with how the hCG is displayed (10^3, 10^4, 10^5) leads to an incorrect score.
- Lung metastases should be scored from a CXR. A CT scan may be used for scoring, but lung metastases should only be counted if they are 1cm or more in size.
- Largest tumour size includes the size of any uterine lesion. However, a uterine lesion is not included in the number of metastases.

PSTT and ETT – a Prognostic Score should not be calculated for these diagnoses. They are only assigned a FIGO Score. The mainstay of treatment for PSTT and ETT is hysterectomy as these are typically non metastatic and resistant to chemotherapy [2]. In the presence of metastatic disease or an interval >48 months from the index pregnancy, platinum-based chemotherapy is required.

Centralisation of care

Best practice is to register a molar pregnancy with a specialist GTD centre. Centralisation allows for a multi-disciplinary team approach to improve patient outcomes and develop consensus-based guidelines [1]. The type of GTD centre will depend on resources available. Queensland, Victoria, and Western Australia have established centralised care, and New South Wales is progressing towards this model. The International Society for the Study of Trophoblastic Disease (ISSTD) and the European Organisation for the Treatment of Trophoblastic Diseases (EOTTD) are organisations aimed at improving care of women diagnosed with GTD. These organisations can provide expert review of complex cases and allow for collaboration of research projects.

Conclusion

GTD is a diverse group of rare, but highly curable conditions. When possible, cases should be managed in specialised centres. Updated guidelines from FIGO and EOTTD for GTD management are expected in 2025.

References

1. Lok C, van Trommel N, Massuger L et al. Practical Guidelines of the EOTTD for treatment and referral of gestational trophoblastic disease. European Journal of Cancer 130 (2020):228-240.
2. Ngan HYS, Seckl MJ, Berkowitz RS et al. Diagnosis and management of Gestational Trophoblastic Disease: 2021 update. Int J Gynecol Obstet.2021 Oct; 155(Suppl 1): 86–93.
3. Ngan HYS, Seckl MJ, Berkowitz RS et al. Update on the diagnosis and management of gestational trophoblastic disease. Int J Gynaecol Obstet 2018;143(Suppl. 20:79-85.
4. Golfier F, Clerc J, Hajri T et al. Contribution of referent pathologists to the quality of trophoblastic diseases diagnosis. Hum Reprod 2011;26(10): 2651-7.
5. BE Swift, LTA Coopmans et al. Is it time to stop monitoring a complete hydatidiform mole pregnancy after hCG normalization? A national retrospective population study. BMJ (ahead of print).
6. Lee Y, Park J, Kim D. Comparing and evaluating the efficacy of methotrexate and actinomycin D as first line single chemotherapy agents in low-risk gestational trophoblastic disease. J Gynecol Oncol 2017 Mar: 29(2): e8.
7. Hao J, Zhou W, Zhang M et al. Direct comparisons of efficacy and safety between actinomycin-D and methotrexate in women with low-risk gestational trophoblastic neoplasia: a meta-analysis of randomized and high quality non-randomized studies. BMV Cancer(J), 2021, 21(1):1122.
8. Pezeshki M, Hancock B, Silcocks P et al. The role of repeat uterine evacuation in the management of persistent gestational trophoblastic disease. Gynecol Oncol 2004 Dec;95(3):423-
9. Welsh M, Morrison S, Baartz D, Sanday K, Garrett A. Outcomes of patients registered with the Queensland Trophoblast Centre diagnosed with gestational trophoblastic neoplasia who develop resistance to chemotherapy. Aust N Z J Obstet Gynaecol 2024 Dec 19.
10. Powles T, Savage PM, Stebbing J et al. A comparison of patients with relapsed and chemo-refractory gestational trophoblastic neoplasia. Br J Cancer. 2007 Mar 12;96(5):732-7

Case Study: Gestational Trophoblastic Disease - Diagnostic Dilemmas and Management Challenges

Dr Sonal Karia
MBBS, MD, FRANZCOG, CREI

Dr Sharadha Mallaiyan
MBBS, MD (Obs and Gyne), FMAS

A 36-year-old, woman, who had been pregnant 14 times and delivered two babies at full term (G14P2), presented to our Early Pregnancy Assessment Service (EPAS). Her obstetric history included two full-term pregnancies, ten previous first-trimester miscarriages and two pregnancy terminations. Her previous full-term pregnancies were low-risk and delivered vaginally. She also had a stroke in 2015 and gastric sleeve surgery in 2023. In April 2024, we diagnosed her with a missed miscarriage of a twin pregnancy at nine weeks and she opted for surgical management via suction and evacuation.

Her beta-human chorionic gonadotropin (β-HCG) level prior to surgical evacuation was 168,933 IU/L, which is unusually high (likely related to a twin pregnancy). The procedure was uneventful, with histology confirming pregnancy-related tissue, known as products of conception (POC), however chromosomal microarray on the POC could not be completed due to insufficient tissue.

At fifteen weeks post miscarriage, she was referred back to our unit by her GP due to persistent irregular vaginal bleeding and cramping abdominal pain, and persistent low β-HCG levels ranging between 126-161 IU/L. A transvaginal pelvic ultrasound reported remaining POC in the upper uterine cavity, measuring 49x45x44 mm (51 mL), with prominent vascularity at the periphery of the collection.

In July 2024, a diagnostic hysteroscopy unexpectedly revealed an empty uterine cavity, with no remaining POC. The discrepancy in the findings between imaging and hysteroscopy led to a discussion at our combined gynaecology-radiology multidisciplinary team review. On re-examining the images, a large vascular lesion in the uterine muscle (myometrium) was identified—initially mistaken for retained tissue. Her persistent low positive β-HCG and ultrasound findings raised suspicion of Gestational Trophoblastic Disease/Neoplasia (GTD/GTN) a group of rare pregnancy-related tumours.

The initial tissue samples were re-examined using immunohistochemistry (a lab technique to detect specific markers). No abnormal or cancerous cells were found. Tests for human placental lactogen (a hormone produced by the placenta) were negative, while p57, a marker that indicates normal placental tissue, was positive. A CT scan of the abdomen and pelvis was recommended to better understand the lesion and check for any other abnormalities or swollen lymph nodes. The case was then referred to the gynaecological oncology team at our tertiary hospital.

CT imaging of the abdomen and pelvis revealed a cystic (fluid-filled) lesion mainly in the uterine muscle at the top of the uterus (fundus), measuring 54×49×51mm. The lesion showed irregular blood vessel patterns and increased blood flow (figure 1), raising suspicion of an invasive mole (a type of GTD where abnormal tissue grows into the uterine muscle). There was no spread into the uterine lining (endometrial cavity) or beyond the outer surface of the uterus (serosa), and no lymph node involvement was detected. A biopsy was not recommended because the lesion had an extensive blood supply, increasing the risk of severe bleeding. Additionally, taking a biopsy could potentially make a cancerous lesion worse (a process known as upstaging). Given the persistently low β-hCG levels for over 15 weeks after the miscarriage, the team suspected a placental site trophoblastic tumour, a rare type of pregnancy-related growth. However, a definitive tissue diagnosis (histology) was necessary to confirm the lesion's exact nature and guide the next steps in treatment.

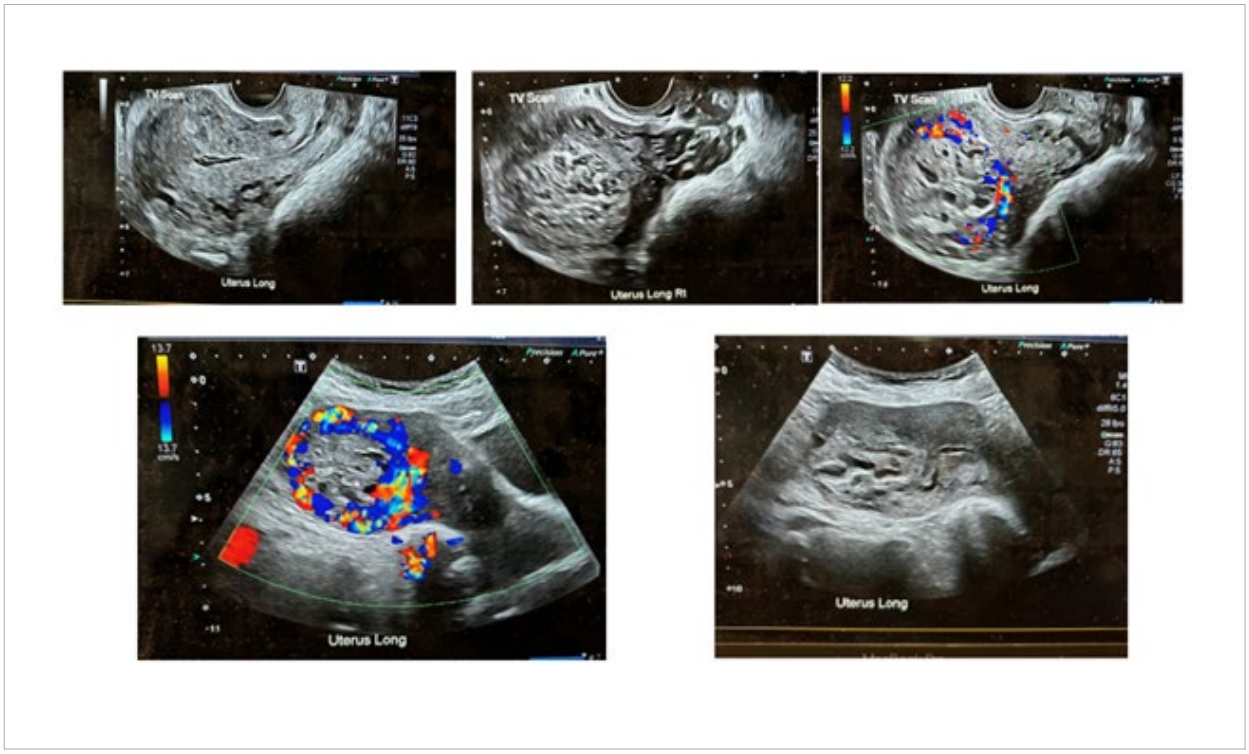


Figure 1: Ultrasound and doppler imaging of the lesion

After lengthy discussions with the patient and confirmation of no desire to preserve her future fertility, a plan was made to proceed with a hysterectomy. A total laparoscopic hysterectomy (TLH) (removal of the uterus) with bilateral salpingectomy (removal of both fallopian tubes) was performed in October 2024 by a gynaecological oncologist. During surgery, a 6 cm cystic nodule (Figure 2) was observed in the uterine fundus. The surgery and her recovery were uneventful.

Despite thorough evaluation, including additional genetic testing (cytogenetic analysis) and special tissue staining, it remained challenging to reach a definitive diagnosis even after we consulted two expert gynaecological pathologists. They concluded that the lesion represented an unusual form of an invasive mole, which likely developed from a twin pregnancy where one twin was normal, and the other was a complete hydatidiform mole (an abnormal pregnancy with no viable fetus).

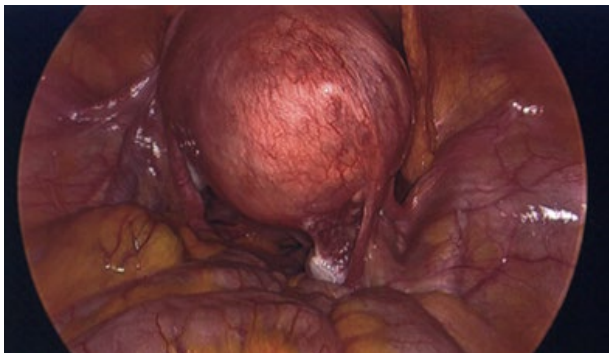


Figure 2: Laparoscopic image of the uterine fundal lesion at TLH

Discussion

Gestational trophoblastic disease (GTD) is a term that encompasses a wide range of conditions arising from abnormal development of placental tissue. These disorders include hydatidiform moles (HMs), invasive moles, gestational choriocarcinoma, and placental site trophoblastic disease [1]. The main concern with GTD is a potential of development of GTN, which can be serious and potentially fatal if diagnosed at an advanced stage. Recent advances leading to earlier diagnosis and effective management have led to reduction in mortality and serious morbidity.

While high β-hCG levels are typical for invasive moles, this patient had persistently low β-hCG for over 15 weeks after miscarriage. The misinterpretation of the myometrial lesion as retained pregnancy tissue initially delayed the correct diagnosis, and the hysteroscopy provided limited insight. This case also highlights diagnostic dilemmas on histology post hysterectomy, requiring additional investigations and expert gynaecological-pathologists opinion.

While an extensive literature review is beyond the scope of this article, below are some key take home messages from this case.

Probable Causes	Investigations/Results
Pregnancy, ectopic pregnancy, heterotopic pregnancy	• History • Variable serum hCG level and doubling rate • Ultrasonography • Laparoscopy
Retained products of conception	• Ultrasonography • Hysteroscopy • Endometrial biopsy • Curettage
Phantom hCG [1]	Interference confirmed if • Urine pregnancy test is negative and serum hCG level is ≥ 50 IU/L • There is a lack of linearity and recovery in the serum serial dilution study • Serum hCG tests are negative after treatment with a heterophilic blocking tube • A different commercial hCG immunoassay generates a substantially discrepant result
Pituitary hCG production [2,3]	• Serum hCG level ≤ 39 IU/L • Follicle-stimulating hormone level > 30 IU/L • Peri- and postmenopausal period
Gestational trophoblastic disease	
Quiescent gestational trophoblastic disease [4-6]	• History of previous gestational trophoblastic disease • Serum hCG level < 212 IU/L • Undetectable hyperglycosylated hCG
Other gestational trophoblastic diseases [4]	• Substantially elevated serum hCG level • Elevated hyperglycosylated hCG level (> 30% of total hCG suggests invasive gestational trophoblastic disease) • Elevated free β-hCG level (> 40% of total hCG suggests invasive gestational trophoblastic disease)
Nontrophoblastic cancer [2]	• Variable elevated serum hCG level • Elevated free β-hCG level (> 40% of total hCG) • Elevated urine β-core fragment • Diagnostic imaging

Note: hCG = human chorionic gonadotropin

Table 1: Causes of persistent low β-HCG (Source: Jianing Chen et al CMAJ, December 6, 2016, 188(17–18)

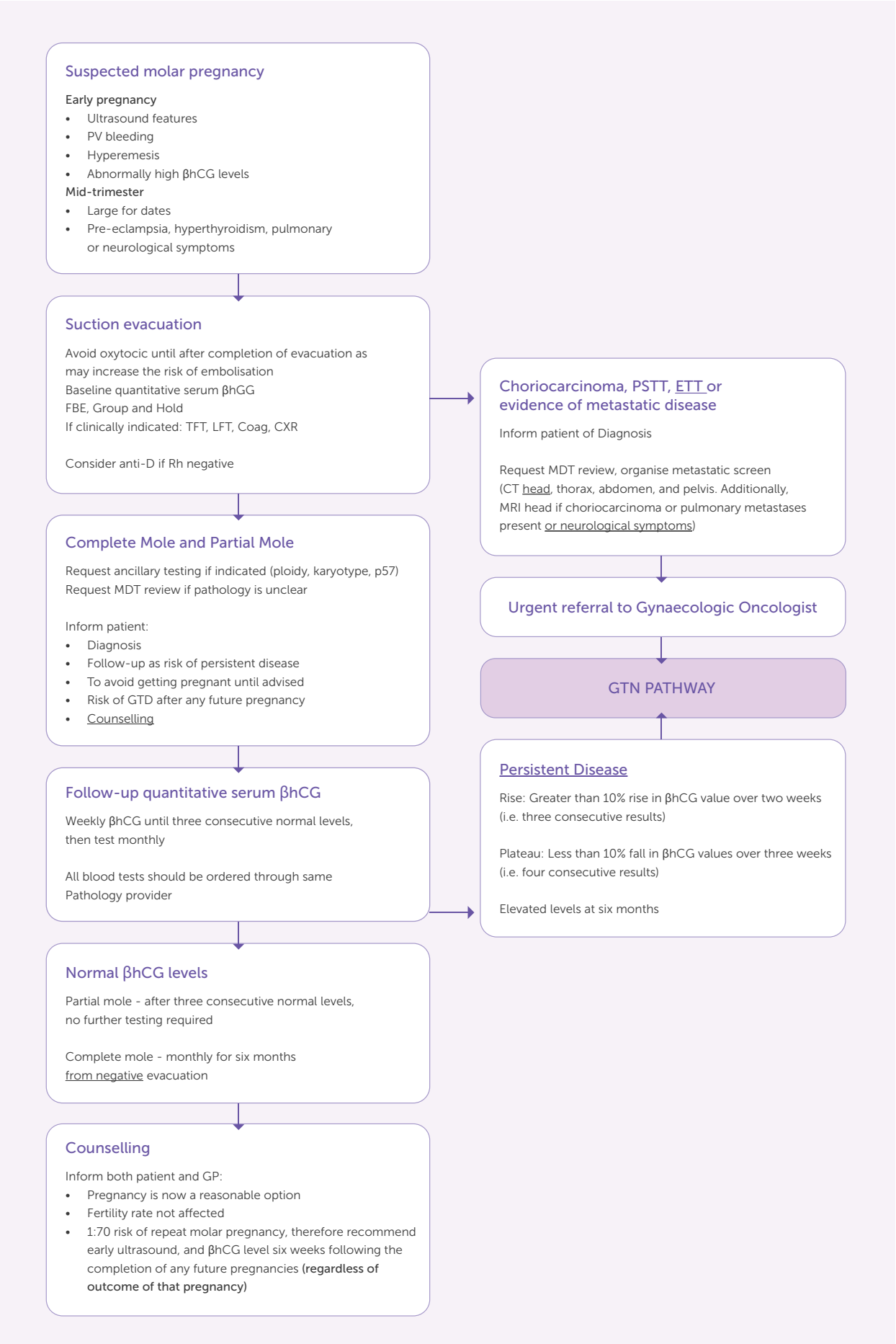


Figure 3: Management of GTD (Source- RANZCOG Statement on Management of gestational trophoblastic disease

1. **Persistent low β-hCG level post miscarriage deserves attention:** β-hCG usually drops between 9-35 days post miscarriage. Persistent low-level elevation of β-hCG defined as less than 250 IU/L for more than three months is associated with benign and malignant conditions. Approximately 7.6% of patients with persistent low-level elevation of β-hCG have active malignancies, and it is very important to identify when low-level elevation of β-hCG is due to malignancy [2]. Among GTNs, invasive moles and choriocarcinoma are usually straightforward to diagnose as they have a relatively high level of β-hCG. Placental site trophoblastic tumours (PSTT) and epithelioid trophoblastic tumours (ETT) are associated with a low level of β-hCG combined with a hypervascular or hypovascular tumour in the myometrium (like the findings in our case). Table 1 summarises the potential causes and evaluation of persistent low β-hCG [3].

Imaging findings can be non-specific, and it may be difficult to discriminate tumours from benign conditions such as remnants of conception (as reported initially in our case) or ectopic pregnancies [4,5]. It is worth mentioning that ectopic pregnancies can also occur in the myometrium (intramural pregnancy). Intramural pregnancies (IMP) are very rare and represent ≤ 1% of ectopic pregnancies (EPs). Despite a few reported cases, there is limited awareness and knowledge among sonographers and physicians [6].

2. **Management of patients with persistent low-level elevation of β-hCG is still controversial.** Chemotherapy may be unnecessary and ineffective in the early stage of persistent low-level elevation of β-hCG because of the possibility of spontaneous cure. However, if there is radiologic evidence of a mass, treatment is recommended, though there are no specific guidelines on whether to perform surgery or chemotherapy. Generally, unless there is evidence of a definite malignancy, it can be helpful to try chemotherapy first and see if β-hCG returns to a normal level. As PSTT and ETT are chemo resistant, the response to chemotherapy is more associated with a benign condition than malignancy [7,8].

3. **Discrepancy between imaging findings and hysteroscopic evaluation** in cases of suspected retained products of conception warrants further evaluation with serial β-hCG and further imaging.

4. **Management of GTD/GTN almost always requires a multidisciplinary approach** including gynaecologists, gynaecological-oncologists, medical oncologists, radiologists, gynaecological-pathologists, nursing teams and support networks. Various societies have outlined guidelines for the management. Clinicians in Australia and Aotearoa New Zealand are encouraged to follow the RANZCOG guidelines. Figure 3 from the RANZCOG guideline summarises the management steps and referral pathways for patients with GTD [9].

Acknowledgements

- Dr Michael Burling – Consultant Gyne-oncologist. Liverpool Hospital, NSW, Australia
- Dr Sacha Kobilsky – Director of Radiology. Campbelltown Hospital, NSW, Australia
- Dr Adriana Suker – Registrar in Obstetrics and Gynecology. Liverpool Hospital, NSW Australia.
- Department of O&G and Early Pregnancy Assessment Service, Campbelltown Hospital NSW Australia.

Dr Sonal Karia and Dr Sharadha Mallaiyan work in the Department of O&G at Campbelltown Hospital, Sydney Southwest LHD, NSW, Australia.

References

1. Monchek, Ruth, Wiedaseck, Susan. Gestational trophoblastic disease An overview. Journal of Midwifery and Women's Health May-June 2012, Volume 57 (3), p 255 – 259
2. Cole LA, Khanlian SA, Giddings A, Butler SA, Muller CY, Hammond C, et al. Gestational trophoblastic diseases: 4. Presentation with persistent low positive human chorionic gonadotropin test results. Gynecol Oncol. 2006;102:165–172.
3. Jianing Chen, Sheri-Lee Samson, James Bentley, Yu Chen. Persistent mild increase of human chorionic gonadotropin levels in a 31-year-old woman after spontaneous abortion. CMAJ, December 6, 2016, 188(17–18)
4. Seckl MJ, Sebire NJ, Berkowitz RS. Gestational trophoblastic disease. Lancet. 2010;376:717–729.
5. Lima LL, Parente RC, Maestá I, Amim J, Junior, de Rezende Filho JF, Montenegro CA, et al. Clinical and radiological correlations in patients with gestational trophoblastic disease. Radiol Bras. 2016;49:241–250.
6. Carnot N. Ntafam a,*, ItunuOluwa Sanusi-Musa b, Robert D. Harris. Intramural ectopic pregnancy: An individual patient data systematic review. Eur J Obstet Gynecol Reprod Biol X . Volume 21; March 2024, 100272
7. Laurence A Cole, Sarah A Khanlian, Almareena Giddings, Stephen A Butler, Carolyn Y Muller, Charles Hammond, Ernest Kohorn. Gestational trophoblastic diseases: 4. Presentation with persistent low positive human chorionic gonadotropin test results. Gynecol Oncol 2006 Aug;102(2):165-72
8. Ji-Hye Kim, Sun Kyung Lee, Soo Hyun Hwang, Jung-Sun Ki, Gun Yoon2, Yoo-Young Lee, Tae-Joong Kim,Chel Hun Choi, Byoung-Gie Kim, Duk-Soo Bae, Jeong-Won Lee. Extrauterine epithelioid trophoblastic tumor in hysterectomized woman. Obstet Gynecol Sci 2017;60(1):124-128
9. https://ranzcog.edu.au/wp-content/uploads/Management-Gestational-Trophoblastic-Disease.pdf

Optimising Ectopic Pregnancy Care: Diagnosis, Treatment and Patient Support

Dr Talat Uppal
MBBS, FRANZCOG, DDU, FAAQHC, FACHSM

Bethany Lai
Medical Student

Ectopic pregnancy (EP) is a potentially life-threatening condition affecting up to two percent of pregnancies, where a fertilised egg implants outside the uterine cavity [1]. Between 2015 and 2017 in Australia, a single maternal death was attributed to ectopic pregnancy, corresponding to a maternal mortality ratio of 0.2 per 100,000 live births during that period [2].

EP predominantly occurs in the fallopian tube, especially within the ampullary region. The management of ectopic pregnancy is guided by several fundamental principles that emphasise timely diagnosis, patient stabilisation, and personalised care to meet both immediate clinical requirements and long-term health considerations [1,3].

Diagnosing Pregnancy in Early Stages

The primary objective of early pregnancy assessment is to determine whether the pregnancy is intrauterine and viable. When transvaginal ultrasound (TVUS) fails to confirm the pregnancy's location, it is categorised as a pregnancy of unknown location (PUL). Conversely, if an intrauterine pregnancy is observed but its viability is unclear, it is referred to as an intrauterine pregnancy of uncertain viability (IPUV). These classifications inform subsequent investigations and interventions aimed at achieving a definitive diagnosis [1, 3].

Early pregnancy can be a challenging time for patients, and the availability of high-resolution gynaecological ultrasound improves timely and accurate assessment. In cases of EP, ultrasound findings may include:

- **Absence of an intrauterine gestational sac** in a patient with a positive pregnancy test.
- **An adnexal mass** with features suggestive of an EP, such as a tubal ring sign, a heterogeneous mass adjacent to the ovary, or a live extrauterine embryo.
- **Free fluid in the pelvis or Morison's pouch,** which may indicate rupture and intra-abdominal bleeding.
- **An empty uterus with a thickened endometrium,** at times showing a pseudo-gestational sac with fluid in the uterus too.

Key Risk Factors for Ectopic Pregnancy

Studies indicate that the following conditions increase the chances of having an EP:

- **History of EP:** Women who have previously experienced an EP have an approximately 10% chance of recurrence [4].
- **Pelvic inflammatory disease (PID):** Infections such as Chlamydia Trachomatis can cause damage to the fallopian tubes raising the risk [4].
- **Tubal surgery or infertility treatments:** Procedures that affect the fallopian tubes or assistive reproductive technologies may predispose individuals to ectopic implantation [4].
- **Older age and endometriosis:** Both are linked to structural or functional changes in the reproductive system [4].
- **Surgical history:** Abdominal surgeries, including caesarean sections or appendectomies, may disrupt normal tubal function [4].
- **Contraceptive failure:** While intrauterine devices (IUDs) and emergency contraception lower the overall risk of pregnancy, they may present a higher relative risk of ectopic pregnancy in cases of conception [4].
- **Cigarette smoking:** Smoking can disrupt tubal motility by increasing levels of proteins such as PROKR1, which may impede the movement of the fertilised egg.

Principles of Management

1. Early Diagnosis and Clinical Vigilance

The foundation of managing EP lies in a prompt and accurate diagnosis. Any woman of reproductive age who presents with pelvic pain and a positive pregnancy test should be assumed to have an EP until proven otherwise. It is essential to consider the possibility of EP even in the absence of risk factors, as about half of women with EP do not exhibit any identifiable risk factors [5].

Key diagnostic tools include:

- **History taking:** Detailed assessment of amenorrhea duration, symptoms such as pain, bleeding, or dizziness, and clarification of whether the pregnancy was planned and is wanted.

- **Transvaginal ultrasound:** This supports determining the location of the pregnancy. In a normally progressing intrauterine pregnancy, an intrauterine sac is typically visible when the quantitative β-hCG level exceeds 1,500 mIU/mL (the discriminatory zone) [3].

- **Quantitative β-hCG testing:** Serial measurements may better help distinguish between viable intrauterine pregnancy, ectopic pregnancy, and pregnancy of unknown location (PUL) by analysing patterns of change, we tell patients it is like a piece of the puzzle that helps clarify what is going on, in addition to the ultrasound results [1].

2. Stabilisation of Hemodynamically Unstable Patients and Surgical Procedure Selection

For patients with signs of hemodynamic instability, including severe pain, hypotension, and tachycardia, immediate resuscitation and surgical intervention are critical. Management steps include:

- **Resuscitation and transfusion**
  Activation of massive transfusion protocols where needed ensures timely blood/ product replacement.

- **Focused Assessment with Sonography in Trauma (FAST)**
  Identifies free fluid or blood in the abdomen, a sign of rupture.

- **Surgical intervention**
  The decision between laparoscopy and laparotomy is influenced by maternal stability, surgical expertise, and the available resources. Laparoscopy is typically preferred where possible, whereas laparotomy may be the best fit when managing significant patient deterioration. When surgical treatment is indicated for women with an EP, it should be performed laparoscopically whenever possible, considering the condition of the woman and the complexity of the surgical procedure [1,3].

- **NICE guidelines** recommend:

  1. Offering salpingectomy (removal of the affected fallopian tube) to women undergoing surgery for EP, unless there are infertility risks [1].

  2. Salpingotomy (removal of the ectopic pregnancy while preserving the fallopian tube) should be considered for those with risk factors for infertility, such as contralateral tube damage [1].

  3. Women undergoing salpingotomy should be informed that up to 20% may require further treatment with methotrexate and/or further salpingectomy [1].

  4. Women who have had a salpingotomy should take one serum hCG measurement at seven days after surgery, then one serum hCG measurement per week until a negative result is obtained [1].

  5. Advise women who have had a salpingectomy that they should take a urine pregnancy test after three weeks. Advise women to return for further assessment if the test is positive. Hence, it is important to note that a salpingostomy may necessitate additional treatment (up to 1:5 women), such as methotrexate or a salpingectomy if follow-up hCG levels do not decline as expected [1].

- **Postoperative monitoring:** High-dependency or intensive care units may be required for fluid and blood loss management. Fluid input-output monitoring and close observation are essential.

Stable patients have a broader range of management options, in addition to surgical ones:

- **Medical Management with Methotrexate**
  This approach is appropriate for select patients with unruptured EP who present without active heavy bleeding, and β-hCG < 5000 IU/L[3,4]. Methotrexate is a folate antagonist that inhibits DNA synthesis and cell replication, primarily inhibiting the proliferation of quickly dividing trophoblastic cells in EPs [3]. Most women would only need one dose of methotrexate. However, about 15% will need a second dose one week later [5]. Methotrexate can be administered via two routes in Queensland according to the guideline, depending on the β-hCG levels: intramuscularly if β-hCG is ≤ 3000 IU/L, and intravenously if β-hCG is > 3000 IU/L [6]. However, in New South Wales it is usually done through intramuscular injection in the buttocks [3]. Nonetheless, it is important to regularly monitor β-hCG levels to ensure the effectiveness of the treatment.

- **Expectant Management**
  This approach is suitable for patients with declining β-hCG levels between 1000 and 1500 IU/mL, minimal symptoms, and no indications of rupture. It is important to note that different guidelines specify varying thresholds for expectant management regarding β-hCG levels; for instance, New South Wales guidelines indicate a level of <1000 IU/L, while Queensland guidelines specify <1500 IU/L[3,6]. This method necessitates careful monitoring, thorough follow-up with the patient, and comprehensive education on the process.

- As per the **NICE guidelines**, 'advise women that, based on limited evidence, there seems to be no difference following expectant or medical management in the rate of EPs ending naturally, the risk of tubal rupture, the need for additional treatment, but that they might need to be admitted urgently if their condition deteriorates and health status, depression or anxiety scores change. Advise women that the time taken for ectopic pregnancies to resolve and future fertility outcomes are likely to be the same with either expectant or medical management [1].

3. Supportive Care and Emotional Wellbeing

EP can have significant emotional and psychological effects, particularly for individuals who wish to maintain their fertility. Statistically, about 65% of women achieve a healthy pregnancy within 18 months after an ectopic pregnancy, with this likelihood increasing to over 80% over two years. However, it is also important to note that the risk of recurrent EP is approximately 10-15%, increasing to 30% after two ectopic pregnancies. Hence the need for an early dating ultrasound in any subsequent pregnancy [5].

Therefore, it is an essential part of the process to provide emotional support and clear communication. Patients should receive counselling about their condition, the available treatment options, and the potential for future pregnancies. Referral to a psychologist or counselling may be helpful for some women.

4. Long-Term Follow-Up

Follow-up care is essential for ensuring the complete resolution of the pregnancy and offers a chance to address any underlying risk factors or conditions. Professionals should counsel patients on strategies to reduce the risk of recurrence, such as managing sequelae of pelvic infections, quitting smoking and avoiding sexual intercourse immediately after treatment for an ectopic pregnancy. Furthermore, individuals treated via salpingostomy, medically, expectantly should undergo serial β-hCG testing until their hormone levels return to baseline [1,3].

Conclusion

EP is a complex condition that necessitates a patient-centred approach, emphasising safety, timely diagnosis, and tailored care. Patients who are hemodynamically unstable benefit from immediate surgical intervention, while those who are stable may have a wider array of management options available, including medical or expectant strategies. By integrating comprehensive clinical assessments, evidence-based treatment protocols, and supportive care, healthcare providers can enhance patient outcomes and effectively address the physical and emotional challenges of those navigating this difficult condition.

Some resources that may be helpful for patients include:

- National Health Service Ectopic Pregnancy [4].
- The Ectopic Pregnancy Trust [5].
- Healthdirect ectopic pregnancy information [7].

References

1. National Institute for Health and Care Excellence. Ectopic pregnancy and miscarriage: diagnosis and initial management. NICE guideline [NG126] [Internet]. 2019. Available from: https://www.nice.org.uk/guidance/ng126/resources/ectopic-pregnancy-and-miscarriage-diagnosis-and-initial-management-pdf-66141662244037
2. Australian Institute of Health and Welfare. Maternal deaths in Australia 2015–2017 [Internet]. Canberra: AIHW; 2019. Available from: https://www.aihw.gov.au/getmedia/8acc8a97-3af3-4ca4-99e7-829167e57d50/aihw-per-106.pdf.aspx?inline=true
3. NSW Health. Ectopic Pregnancy Clinical Practice Guidelines [Internet]. 2012. Available from: https://www1.health.nsw.gov.au/pds/ActivePDS-Documents/PD2012_022.pdf
4. NHS. Ectopic Pregnancy [Internet]. Available from: https://www.nhs.uk/conditions/ectopic-pregnancy/
5. The Ectopic Pregnancy Trust. Information and Support [Internet]. Available from: https://ectopic.org.uk/
6. Queensland Health. Ectopic Pregnancy Guidelines [Internet]. Available from: https://www.health.qld.gov.au/__data/assets/pdf_file/0023/143906/f-epl-ectopic.pdf
7. Healthdirect Australia. Ectopic Pregnancy [Internet]. Available from: https://www.healthdirect.gov.au/ectopic-pregnancy

Dr Kay Anne Wilson
FRANZCOG, DDU

1970-2024

Dr Kay Anne Wilson was born in Ashburton, New Zealand. She completed her schooling in Ashburton then later obtained her medical degree at the University of Otago where she also completed her intern year.

In 1994, she moved to Adelaide, South Australia and began working as a resident medical officer at the Royal Adelaide Hospital. A further resident year followed before she then entered the obstetrics and gynaecology training program through the Royal New Zealand College of Obstetricians and Gynaecologists in 1996. Following the amalgamation of the New Zealand and Australian colleges, she completed her RANZCOG Fellowship across multiple metropolitan Adelaide hospitals as well as a rural placement in Mt Gambier. During her training she also completed her Diploma of Diagnostic Ultrasound (DDU).

In 2002 Dr Wilson entered private practice, and quickly became a highly sort-after specialist in both obstetrics and gynaecology. She worked across four hospitals and served on the perinatal committees of both Burnside War Memorial and Calvary North Adelaide hospitals. She was widely respected for her level-headed and straightforward manner—so much so that many fellow obstetricians chose her as their own doctor.

Beyond medicine, she was an avid tennis lover, both as player and spectator. In more recent years she branched out, taking up new pursuits such as learning to play the ukulele, developing her passion for singing and becoming a Pilates instructor. She also loved attending musical theatre both amateur and professional.

Despite spending 30 years in Adelaide, when it came to sport, she remained a true New Zealander enthusiastically supporting her country of birth whenever cricket, netball or rugby were being contested.

Dr Wilson is survived by her mother Shirley, brothers Roger and Kevin and will be deeply missed by her friends and colleagues in Adelaide.

Dr David Woodhouse
MB BS, DipObsRCOG, FRCOG, FRANZCOG, FAICD, MRepMed, MBioeth

1947-2024

It is with heavy hearts that we acknowledge the passing of Dr David Ronald Woodhouse. A beloved husband and father who passed away on 6 December 2024 after a valiant battle with cancer.

Born 10 February 1947 at King George V Memorial Hospital in Sydney, Dr Woodhouse spent his early years growing up in Kensington and attended primary school at Daceyville Public School. He later moved to Botany as a teenager and was selected to attend Sydney Boys High School from 1959 to1964. This was a school he loved dearly and that harnessed and directed his growing intellect within the society he would later serve.

Dr Woodhouse resisted the class-based pressures of growing up in 1950s Australia, which encouraged him to pursue trades or the army. Instead he broke the mould and strove to become a doctor—a calling he felt deeply from an early age.

Dr Woodhouse attended the University of Sydney Medical School from 1965 to 1970, a time of his life and university career that he cherished. He was appointed to his internship at the Sydney Hospital in 1971 and undertook his senior residency there in 1972, during which time he also seconded to the Royal Flying Doctor Service.

In 1973, Dr Woodhouse then became a Junior Obstetric Registrar at Crown Street Women's Hospital, which included a secondment to Liverpool Hospital and Crown Street's Pathology Department. He then become an obstetrics and gynaecology registrar at Crown Street from 1974 to 1977 which included his Professorial registrarship in 1977. During this period, he established the Fetal Medicine Unit and helped establish the first non-hospital Birthing Centre in New South Wales at the hospital.

Dr Woodhouse travelled to the United Kingdom where he was a registrar in Norfolk and Norwich Hospital from 1978–1979 and Senior Registrar in St Mary's Hospital, Portsmouth in 1979.

Dr Woodhouse entered private obstetrics practice from 1980 to 1995 during which time he was also a visiting obstetrician and gynaecologist at Liverpool Hospital, Chairman of Liverpool Hospital's Obstetrics and Gynaecology Department, Founder and Director of Liverpool Hospital's Menopause Clinic and Vice President of the Australian Pharmaceutical Physician's Association.

During and following private practice, Dr Woodhouse also held various Director roles at pharmaceutical companies including Upjohn Pty Ltd (1989–1995), Pharmacia & Upjohn (1995– 1999), Pharmacia Pty Ltd (1999–2003), Serono Australia Pty Ltd (2003–2005) and Organon Australia Pty Ltd (2005 to 2008).

Dr Woodhouse returned to private consulting at GNP Australia (2008–2009) and at the Australian Menopause Clinic, where he practised as a consultant gynaecologist from 2009 until his retirement in 2020.

During his illustrious and profound medical career, Dr Woodhouse also pursued further higher education, obtaining a Bachelor of Arts (1986, University of Sydney), majoring in Italian, a Master's in Reproductive Medicine (2004, University of Western Sydney), and a Master in Bioethics (2017, University of Sydney), among other qualifications.

Dr Woodhouse provided dedicated service to RANZCOG from 1989 to 2002, during which time he served as:

- Secretary, NSW State Committee (1989–1991)
- Chairman, NSW State Committee (1991–1994)
- Chairman, NSW State Reference Committee (RANZCOG/RACGP, elected 1992)
- NSW representative to the Federal Council RANZCOG (1992–2002)
- Member of various committees, including Case Mix, Asia and Oceanic Affairs, Continuing Education, and Joint Consultative Committees
- Chairman, Health Care Committee (1994–1998)
- Senior Vice President (1998–2002)
- Chairman, NHMRC Working Party on Guidelines for Use of RhD Immunoglobulin in Obstetrics (1994–2003
- Member, Board of Management of the Australian and New Zealand Journal of Obstetrics and Gynaecology (1998–2002)
- Chairman, Fellowship Legal Appeals Committee (2002–2003)

Dr Woodhouse was also a prolific writer of numerous unpublished poetry and books as well as adept in Latin, playing the banjo, ballroom dancing and was a highly skilled watercolour artist.

Dr Woodhouse was a man of deeply held honour, dignity, ethics, profound intelligence, with a spirit of inquiry and strength.

He leaves this world far better than when he found it following a life of service not only to his family but to his patients and his beloved RANZCOG. Dr Woodhouse welcomed countless lives into this world as an obstetrician and championed the causes of women in healthcare as a gynaecologist.

Dr Woodhouse is survived by his loving wife Catherine, his devoted children Ronald, John, Evan, Meaghan and Justin, and his cherished grandchildren, Sophia, Patricia, Evelyn, Ruby, Wren and Hendrix.

He lives on through his family who deeply miss him.

Vivere aeternum per familiam.

If you would like to reach out to the Woodhouse family for any reason you can do so via his son, Justin Woodhouse at jadwoodhouse@gmail.com