Dr Ivana Rizzuto MD FRCOG FRANZCOG

Consultant Obstetrician and Gynecologist @ Ipswich hospital

Senior Lecturer The University of Queensland

WOMEN & GYNAECARE

THE UNIVERSITY OF QUEENSLAND AUSTRALIA

AUDAX AT FIDELIS

Queensland Government

Objectives

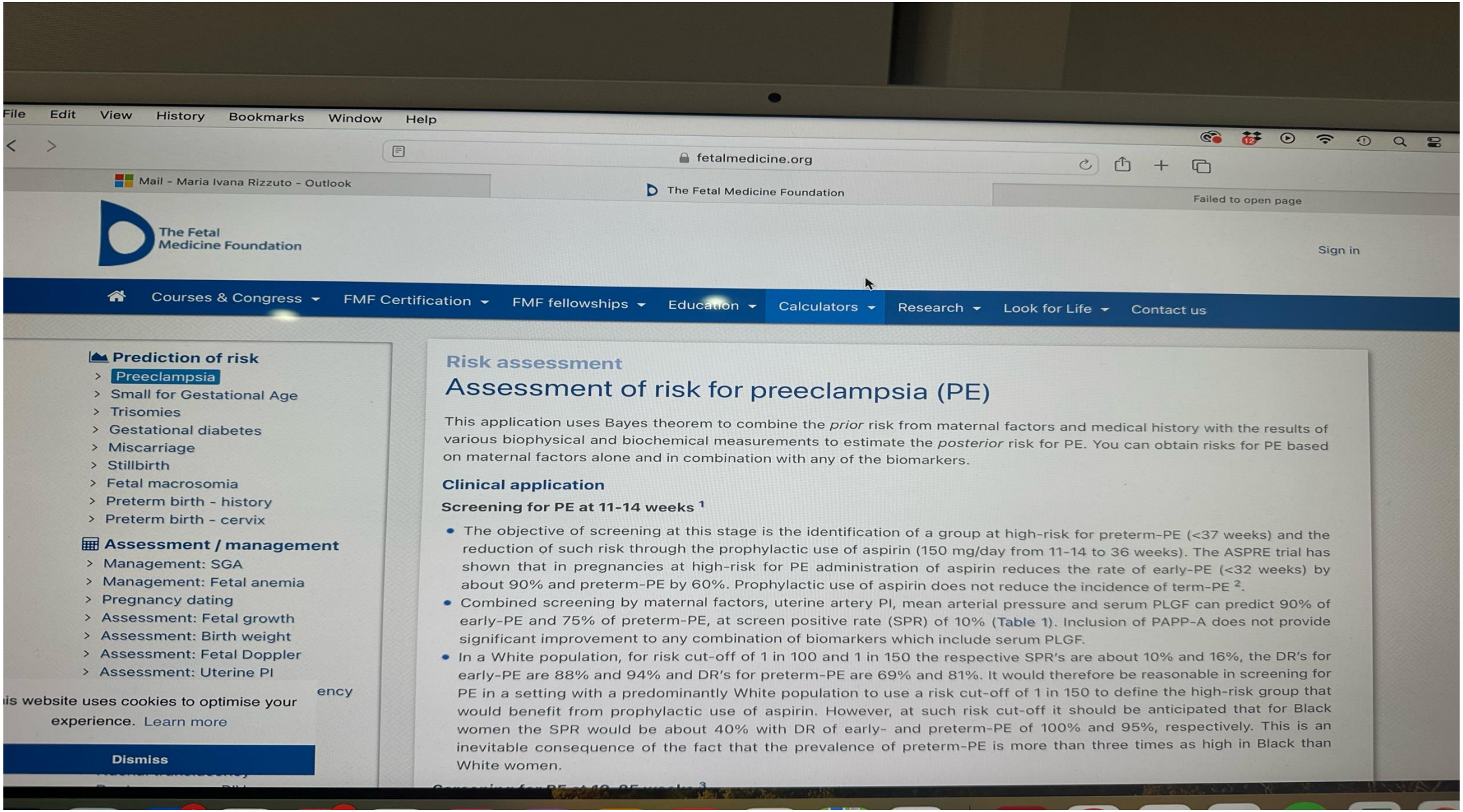
- Updates in Antenatal care: Aspirin in Pregnancy, the value of Uterine artery doppler and calcium supplements.
- Latest RANZCOG Guidelines for diagnosis of recurrent miscarriages
- Management of abnormal smears in Pregnancy
- Diagnosis and management of Cervical Length-risk factors

Value of uterine artery Doppler, Aspirin and calcium supplements

Why it is an important topic:

1) Preeclampsia complicates **approximately 3% of** the pregnancies. It remains a significant contributor to maternal and perinatal morbidity globally, **accounting for more than 76,000 maternal deaths and 500,000 infant deaths worldwide annually.**
2) Preeclampsia is a contributory factor for other adverse pregnancy and perinatal outcomes, including preterm birth, FGR, and neonatal admissions to intensive care (NICU)


What can we do?


File Edit View History Bookmarks Window Help
fetalmedicine.org
Mail - Maria Ivana Rizzuto - Outlook
The Fetal Medicine Foundation
Failed to open page
The Fetal Medicine Foundation
Sign in
Courses & Congress
FMF Certification
FMF fellowships
Education
Calculators
Research
Look for Life
Contact us
Prediction of risk
Preeclampsia
Small for Gestational Age
Trisomies
Gestational diabetes
Miscarriage
Stillbirth
Fetal macrosomia
Preterm birth - history
Preterm birth - cervix
Assessment / management
Management: SGA
Management: Fetal anemia
Pregnancy dating
Assessment: Fetal growth
Assessment: Birth weight
Assessment: Fetal Doppler
Assessment: Uterine PI
ency
is website uses cookies to optimise your experience. Learn more
Dismiss
Risk assessment
Assessment of risk for preeclampsia (PE)
This application uses Bayes theorem to combine the prior risk from maternal factors and medical history with the results of various biophysical and biochemical measurements to estimate the posterior risk for PE. You can obtain risks for PE based on maternal factors alone and in combination with any of the biomarkers.
Clinical application
Screening for PE at 11-14 weeks [1]
The objective of screening at this stage is the identification of a group at high-risk for preterm-PE (<37 weeks) and the reduction of such risk through the prophylactic use of aspirin (150 mg/day from 11-14 to 36 weeks). The ASPRE trial has shown that in pregnancies at high-risk for PE administration of aspirin reduces the rate of early-PE (<32 weeks) by about 90% and preterm-PE by 60%. Prophylactic use of aspirin does not reduce the incidence of term-PE [2].
Combined screening by maternal factors, uterine artery PI, mean arterial pressure and serum PLGF can predict 90% of early-PE and 75% of preterm-PE, at screen positive rate (SPR) of 10% (Table 1). Inclusion of PAPP-A does not provide significant improvement to any combination of biomarkers which include serum PLGF.
In a White population, for risk cut-off of 1 in 100 and 1 in 150 the respective SPR's are about 10% and 16%, the DR's for early-PE are 88% and 94% and DR's for preterm-PE are 69% and 81%. It would therefore be reasonable in screening for PE in a setting with a predominantly White population to use a risk cut-off of 1 in 150 to define the high-risk group that would benefit from prophylactic use of aspirin. However, at such risk cut-off it should be anticipated that for Black women the SPR would be about 40% with DR of early- and preterm-PE of 100% and 95%, respectively. This is an inevitable consequence of the fact that the prevalence of preterm-PE is more than three times as high in Black than White women.

FMF algorithm is an online calculator which uses a combination of prior risk factors (*maternal and medical history) with biophysical (MAP, uterine artery pulsatility index (UtPI) and biochemical (PAPP-A and PIGF)* markers to estimate the risk if preterm preeclampsia. The FMF calculator is validated to calculate risk for women *who are 11-14+1 weeks pregnant, however the UtPI must be taken between 11-13+6 weeks gestation.*

- Does screening in early pregnancy for preeclampsia improve maternal and perinatal outcomes?
- In pregnant women up to 14 weeks, are UtPI and biomarkers (i.e PAPP-A and PIGF)compared with usual care or other combinations, more accurate in identifying women at risk of preeclampsia less than 37 weeks?

Summaries of the evidence

- First trimester screening followed by aspirin prophylaxis *most likely reduces the risk of early onset pre-eclampsia diagnosed or resulting in birth prior to 32-34 weeks gestation (five studies OR 0.38, 95%CI 0.22-0.64, certainty of evidence- Moderate)*
- First trimester screening followed by aspirin prophylaxis *may reduce the risk of preterm preeclampsia diagnosed at or resulting in birth less than 37 weeks gestation (6 studies, OR 0.61, 95% 0.52-0.70. certainty of evidence-Low)*

RANZCOG™
Excellence in Women's Health

Summaries of the evidence

- First trimester screening followed by aspirin prophylaxis *may reduce the rate of stillbirth*, defined variably as an in-utero fetal death *after 20-24 weeks gestation (3 studies, OR 0.71, 95% CI 0.56-0.89. Certainty of evidence- very low)*
- First trimester screening followed by aspirin prophylaxis *may have little or no effect on the risk of term preeclampsia more or equal 37 weeks gestation (5 studies, OR 0.80, 95%CI 0.62-1.03. certainty of evidence –low)*

RANZCOG™
Excellence in Women's Health

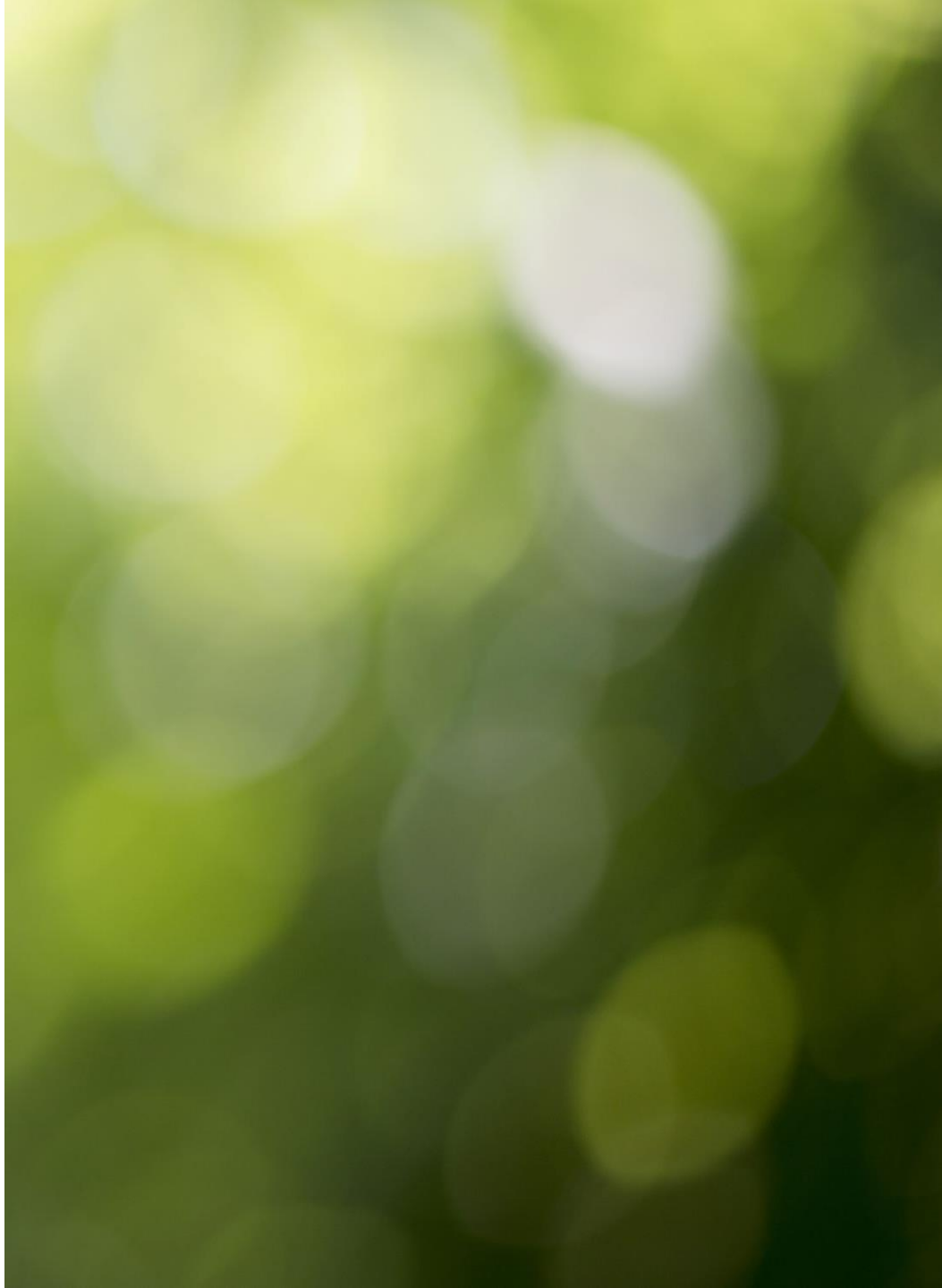
Summaries of the evidence

Aspirin commenced less than 16 weeks pregnancy most likely decreases pre-eclampsia (RR 0.68, 95%CI 0.53-0.89. Certainty of evidence- Moderate)

Aspirin commenced less than 16 weeks pregnancy most likely decreases preterm birth (RR 0.49, 95%CI 0.26-0.95. Certainty of evidence- Moderate)

Aspirin may decrease preterm pre-eclampsia (RR 0.70, 95%CI 0.53-0.92. Certainty of evidence- Low)

RANZCOG™
Excellence in Women's Health



Summaries of the evidence

- RANZCOG have recommended at least 100mg Aspirin. There is absence of studies directly comparing 100mg with 150mg daily. The lack of preparation of 150mg in Australia.

RANZCOG™
Excellence in Women's Health

Table 1. Clinical risk assessment for pre-eclampsia	
High risk factors*	**Moderate risk factors***
Previous pregnancy complicated with hypertension, pre-eclampsia spectrum disorders or HELLP syndrome[1,3,9]	Primigravida[1,9]
Multifetal gestation[9]	Age ≥40 years[1] Age ≥35 years[9]
Chronic hypertension[1,3,9]	More than 10-year pregnancy interval[1,9]
Type 1 or 2 diabetes mellitus[1,3,9]	BMI >30 kg/m^2 at first visit[9] BMI >35 kg/m^2 at first visit[1]
Chronic kidney disease[1,3,9]	Family history of PET (mother or sister)[1,9]
Autoimmune disease (eg systemic lupus erythematosus, antiphospholipid syndrome, scleroderma)[1,3,9]	Low socioeconomic status Personal history of low birth weight Previous adverse pregnancy outcomes[9]
Assisted conception with oocyte donation[3]	Multifetal gestation[1]

**Recommend low-dose aspirin if the patient has at least one of the high-risk factors or two or more moderate-risk factors*
BMI, body mass index; HELLP, haemolysis, elevated liver enzymes and low platelets

AJGP

Summaries of the evidence-Calcium

RANZCOG™
Excellence in Women's Health

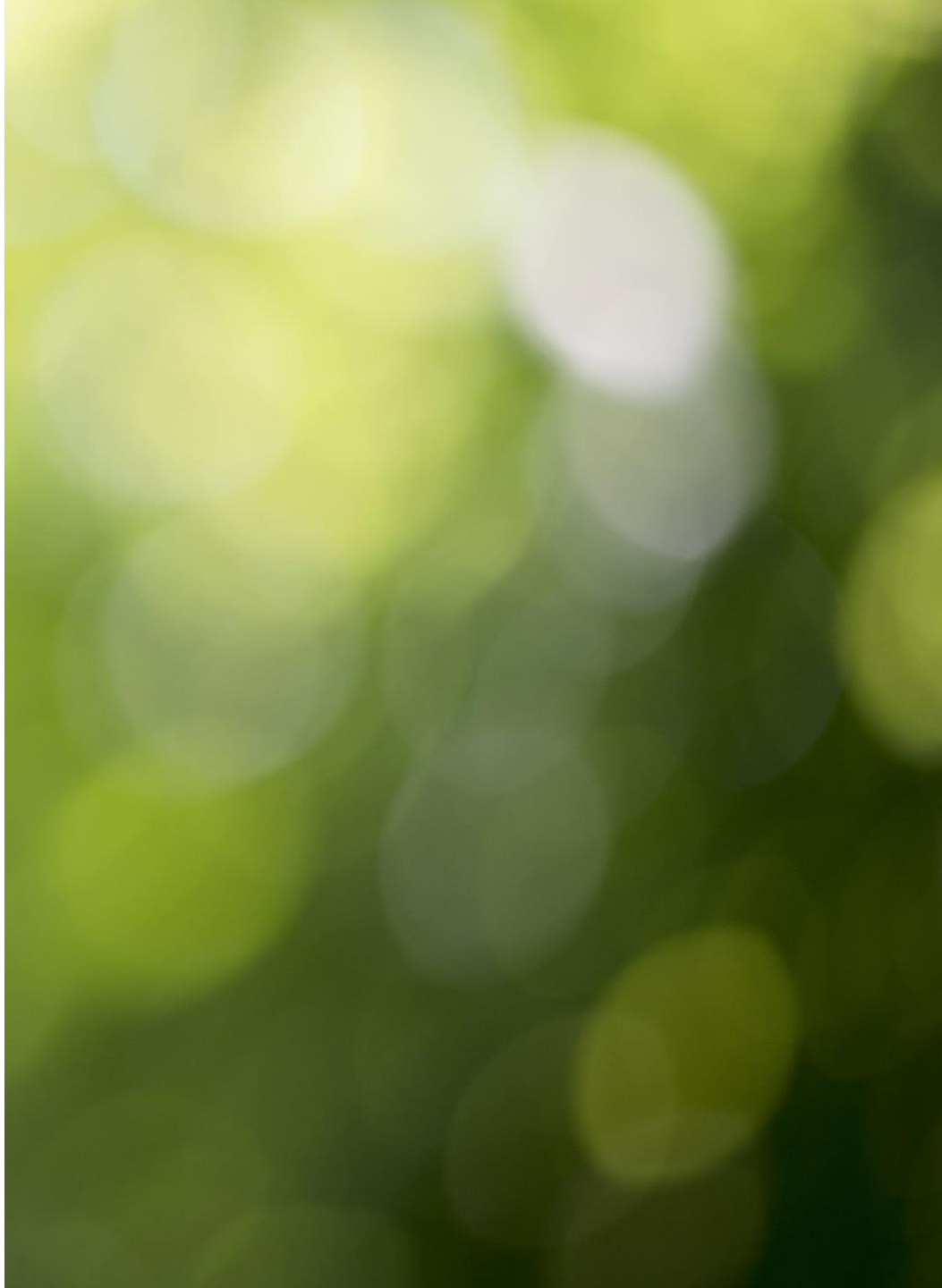
Any calcium supplementation **most likely reduces incidence** of **any pre-eclampsia** when compared to placebo/no therap (RR 0.49, 95%CI CI 0.39-0.61). Certainty of evidence moderate.

For women with an increased risk for preeclampsia, calcium supplementation **most likely reduces incidence** of preeclampsia when compared with placebo/no therapy (RR 0.41, 95%CI 0.29-0.57). Certainty of evidence- Moderate.

For women with low baseline calcium intake, calcium supplementation **may have little or no difference** on incidence of preeclampsia when compared with placebo/no therapy (RR 0.62, 95%CI 0.37-1.06). Certainty of evidence – Moderate.

For women with adequate baseline calcium intake, calcium supplementation **may have little or no difference on incidence** of preeclampsia when compared with placebo/no therapy (RR 0.62, 95%CI 0.37-1.06). Certainty of evidence moderate.

Cochrane review 2022



Aust N Z J Obstet Gynaecol 2024; 64: 432–444

ANZJOG

DOI: 10.1111/ajo.13821

POSITION PAPER

Australasian Recurrent Pregnancy Loss Clinical Management Guideline 2024 Part I

Adriana Suker[1], Ying Li[2], Danielle Robson[2], Anthony Marren[2] and on behalf of the Australasian CREI (Certificate of Reproductive Endocrinology and Infertility) Consensus Expert Panel on Trial Evidence (ACCEPT) group

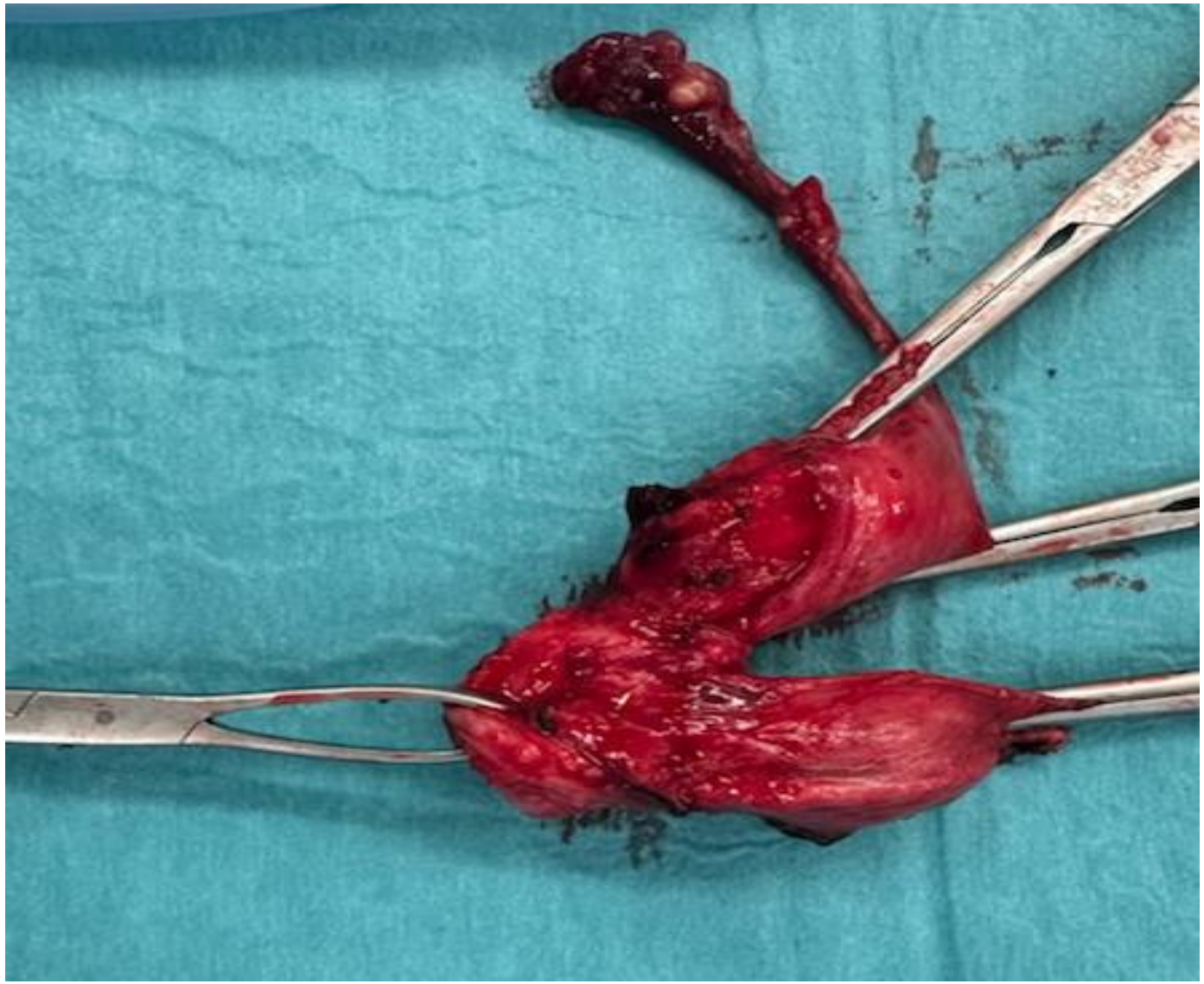
Investigations	Recommendation	Test	Evidence
Acquired thrombophilia: antiphospholipid Ab	Routinely recommended	Lupus anticoagulant (LA)	Strong
	Routinely recommended	Anti-cardiolipin antibodies (aCL) (IgG and IgM)	Strong
	Consider case-by-case	Anti-B2GPI	Very Low *
Imaging	Routinely recommended	3D ultrasound	Conditional
Thyroid screening	Routinely recommended	TSH, TPO antibodies, and thyroid function	Strong
Genetic factor	Consider case-by-case	Parental peripheral blood karyotyping [a]	Conditional
Male factor	Consider case-by-case	Sperm DNA fragmentation [b]	Low
Immunological	Consider case-by-case	ANA antibodies [c]	Low
	NOT routinely recommended	HLA, cytokine and NK cell	Strong
Inherited thrombophilia	NOT routinely recommended	Factor V Leiden, prothrombin gene mutation, protein S deficiency [c]	Moderate
	NOT routinely recommended	Protein C, antithrombin deficiency and methylenetetrahydrofolate reductase deficiency	Strong
Others	NOT routinely recommended	PCOs, fasting insulin and fasting glucose	Strong
	NOT routinely recommended	Prolactin testing	Conditional
	NOT routinely recommended	Ovarian reserve testing	Strong
	NOT routinely recommended	Androgen testing	Strong
	NOT routinely recommended	Vitamin D	Strong
	NOT routinely recommended	Luteinising hormone	Strong
	NOT routinely recommended	Homocysteine plasma levels	Strong

Recommendation:

Routinely recommended: Should be recommended as part of routine testing for recurrent miscarriage.

Consider case-by-case: Could be considered as part of testing for recurrent miscarriage, as appropriate.

NOT routinely recommended: Should not be routinely recommended as part of testing for recurrent miscarriage.



Cervical screening is safe at all stages of pregnancy.
For some women, pregnancy may be the first and only point with the health system.

- Routine antenatal and postpartum care should include a review of the woman's cervical screening history.
- Women who are due or overdue for screening should be screened.
- Age eligibility: 25-74 years
- ***Patients under 25?***
- • Cervical screening is not recommended for women (including pregnant women) under the age of 25
- • Medicare does not fund routine Cervical Screening Tests (CST) for women under 25
- • However, women with signs and symptoms suggestive of cervical cancer at any age, should be investigated using a co-test (HPV and LBC)1

1. Clinician-collected cervical sample

- A cervical sampler broom is recommended for use during pregnancy[1]

✓  Cervical sampler broom

- The endocervical brush and Cervex-Brush® Combi are not recommended for use during pregnancy, due to the risk of associated bleeding which may cause unnecessary distress for the patient[1]

X  Endocervical brush

Cervex-Brush® Combi

2. Self-collected vaginal sample

- HPV self-collection is as sensitive for the detection of HPV and CIN2+/AIS as a clinician-collected test[2]
- HPV self-collection is suitable for use at all stages of pregnancy and may be a more acceptable option for some women
- Women should be informed of the small risk of bleeding with this test during pregnancy
- You may assist your patient to collect a vaginal sample if required
- Women testing positive for HPV (not 16/18) on a self-collected sample should be advised to return so that a cervical sample for Liquid Based Cytology (LBC) can be collected. The incidence of HPV (not 16/18) is highly age dependent. NCSR data[3]

25-29 years	17%
30-34 years	10%
35-39 years	6%
40-44 years	5%
45-49 years	4%

- Colposcopy during pregnancy

-Is safe and should not be delayed

- Aims to exclude the presence of invasive cancer and to reassure patients that their pregnancy will not be affected by the presence of an abnormal cervical screening test result

- Should be undertaken by a colposcopist experienced in assessing women during pregnancy.

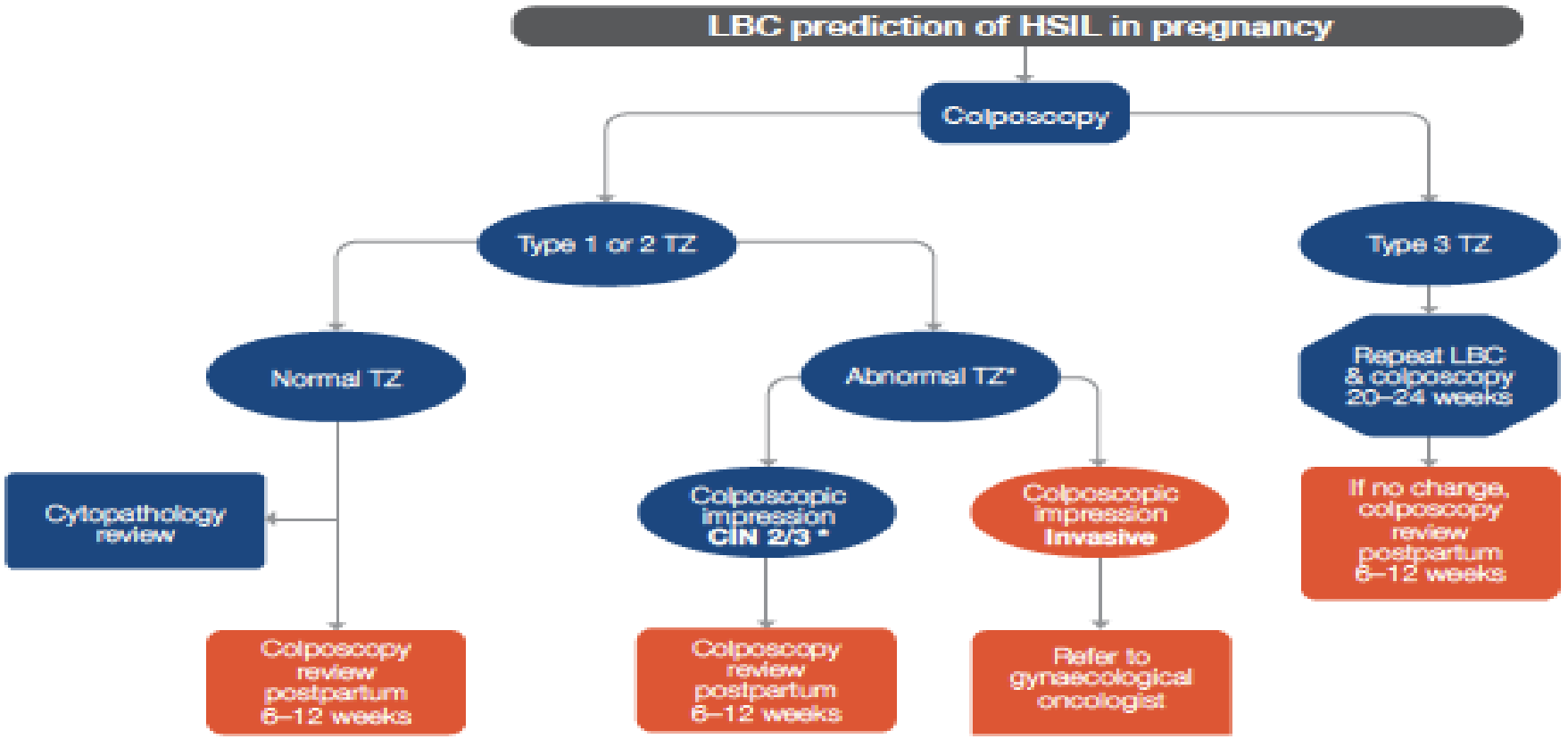
Management of high-grade squamous intraepithelial (HSIL) lesions:

Conservative management of HSIL is recommended during pregnancy

Regression of CIN lesions is common in the postpartum period

Definitive treatment of a suspected high-grade lesion, except invasive cancer, may be safely deferred until after the pregnancy.

If invasive disease is found in pregnancy, the patient should be referred urgently to a gynaecological oncologist



- HPV not detected = return for next screen in 5 years.
- HPV (not 16/18) detected:

-Reflex LBC negative / pLSIL/LSIL =repeat test in12 months.

-Reflex LBC pHSIL/ HSIL or glandular abnormality = colposcopy.

- HPV (16/18) detected = refer for colposcopy, regardless of LBC result.

Cervical length screening-Why it is an important topic

- In Australia, 7% of pregnancies resulted in deliveries before 37 weeks during 2002, with approximately 3% births before 34 weeks of gestation.
- Although this is a small proportion of total births in Australia, it accounts for almost 70% of the total perinatal mortality.

RANZCOG™
Excellence in Women's Health

Is there an accurate test? + is testing cost-effective?

RANZCOG™
Excellence in Women's Health

- Transvaginal examination in pregnancy has been shown to be safe, even in the setting of preterm, pre-labour rupture of membranes
- Published data for the cost-effectiveness of universal cervical length screening specific to the situation in New Zealand and Australia are currently lacking

Cervical length measurement in high-risk women

- Previous preterm birth (may benefit from vaginal progesterone or cervical cerclage)
- Women with untreated CIN have a slightly higher risk of preterm birth (RR 1.24). The risk is increased with increasing volume of tissue removal or ablation, and with multiple excisional procedures.

RANZCOG™
Excellence in Women's Health

Cervical length measurement in high-risk women

- Multiple pregnancy- the evidence regarding therapeutic intervention for those with a short cervix is conflicting
- Women symptomatic of preterm labour a TVS assessment of cervical length may be useful in diagnosing preterm labour. Knowledge of the cervical length can help to define management for women with symptoms and signs of threatened preterm labour at 24-34 weeks

RANZCOG™
Excellence in Women's Health

Is there an effective treatment? – There has been controversy over the years

- Micronized vaginal progesterone in a meta-analysis of 5 RCT's comparing its use against placebo or no treatment (Romero et al 2018). Utilising a cut-off of 25 mm cervical length for treatment
- Daily vaginal progesterone was associated with

-a reduction in the risk of preterm delivery for singleton pregnancies before 33 weeks (RR 0.62)

-decreased the risk under 28 weeks through to 36 weeks, with associated reduction in respiratory distress syndrome, composite neonatal morbidity and mortality, low birthweight and NICU admission.

RANZCOG™
Excellence in Women's Health

Thank you

ivana.rizzuto2@health.qld.gov.au

WOMEN & GYNAECARE

THE UNIVERSITY OF QUEENSLAND AUSTRALIA

AUDAX AT FIDELIS

Queensland Government