Clinical reviews

Our panel of GPs review recent research papers in their specialist areas that may influence the way you practise

Reviewers

Addiction
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Obstetrics and gynaecology

Identifying risk factors for pre-eclampsia

Previous pre-eclampsia, chronic hypertension, and pregestational diabetes, as well as BMI ≥ 30 kg/m^2, and antiphospholipid antibody syndrome (APS), are all strongly associated with an increased risk of pre-eclampsia, a meta-analysis of large cohort studies has shown.

The researchers from Canada searched PubMed and Embase and identified 4,048 papers evaluating pre-eclampsia and risk factors. Overall, 92 studies with cohorts of ≥ 1,000 subjects were included in the systematic review and meta-analysis. A total of 25,356,688 pregnancies were included.

The risk factors from earlier pregnancies addressed were previous pre-eclampsia, placental abruption, fetal intrauterine growth restriction, and stillbirth. Additionally, risk factors from the current pregnancy included nulliparity, advanced maternal age, chronic hypertension, prepregnancy diabetes, CKD, high BMI, assisted reproduction, systemic lupus erythematosus, APS and multiple pregnancy.

The greatest relative risk (RR) was a prior history of pre-eclampsia, 8.4 (95% CI: 7.1-9.9), followed by chronic hypertension, RR 5.1 (95% CI: 4.0-6.5), and pregestational diabetes, RR 3.7 (95% CI: 3.1-4.3), see table 1, below.

A further analysis calculated the numbers of pregnant women who would need to take aspirin to prevent one case of pre-eclampsia (NNP). A threshold level for aspirin therapy to be useful is accepted as NNP < 250. APS, previous pre-eclampsia, chronic hypertension, prepregnancy diabetes, assisted reproductive technology and BMI ≥ 30 kg/m^2 all had a threshold NNP with an upper 95% confidence interval well below 250, 'which would justify consideration for aspirin,' the authors conclude.

Identifying pregnant women who are at high risk of developing pre-eclampsia early is useful for two reasons. First, more careful monitoring and earlier treatments can be offered, and second it allows aspirin therapy to be given. Aspirin can reduce the risk of pre-eclampsia, but it needs to be initiated by 16 weeks' gestation.

For many if not most women in the UK, it will be the responsibility of the midwife to identify the presence of a qualifying risk factor, and enable aspirin therapy to be commenced.

GPs however should also be aware of the potential benefits of aspirin therapy in preventing pre-eclampsia in women with risk factors. They can then advise women prospectively (e.g. women with APS, diabetes, hypertension) and in addition seek to modify those risk factors that are amenable to change prior to pregnancy (principally overweight and obesity).

DR CHRIS BARCLAY

Bartsch E, Medcalf KE, Park AL, Ray JG on behalf of the High Risk of Pre-eclampsia Identification Group. Clinical risk factors for pre-eclampsia determined in early pregnancy: systematic review and meta-analysis of large cohort studies. *BMJ* 2016;353:i1753

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Table 1

Risk of pre-eclampsia among women determined by 16 weeks' gestation

Risk factor	Pooled unadjusted RR (95% CI)
Systemic lupus erythematosus	2.5 (1.0–6.3)
Nulliparity	2.1 (1.9–2.4)
Prior stillbirth	2.4 (1.7–3.4)
Chronic kidney disease	1.8 (1.5–2.1)
Assisted reproductive technology	1.8 (1.6–2.1)
Prepregnancy BMI ≥ 25	2.1 (2.0–2.2)
Prepregnancy BMI ≥ 30	2.8 (2.6–3.1)
Multifetal pregnancy	2.9 (2.6–3.1)
Pregestational diabetes	3.7 (3.1–4.3)
Prior pre-eclampsia	8.4 (7.1–9.9)
Chronic hypertension	5.1 (4.0–6.5)
Antiphospholipid antibody syndrome	2.8 (1.8–4.3)