Pre-eclampsia may be caused by the fetus, not the placenta

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Pre-eclampsia, the potentially deadly condition that affects pregnant women, may be caused by problems meeting the oxygen demands of the growing fetus, according to an editorial in the November issue of *Anaesthesia*, the journal of the Association of Anaesthetists of Great Britain and Ireland (AAGBI).

The finding has promoted the co-author of the editorial, Associate Professor Alicia Dennis, Consultant Anaesthetist & Director of Anaesthesia Research at the Royal Women's Hospital in Melbourne, Australia, to call for the name of the condition to be changed to make women more aware of the risks.

"Referring to it as hypertension caused by pregnancy, rather than the historically out-dated name of pre-eclampsia, would mean that women worldwide could be better informed and counselled about the condition" she says.

Associate Professor Dennis co-wrote the editorial, published online in the journal *Anaesthesia*, with Dr Julian Castro, a consultant cardiologist at St Vincent's Hospital, Melbourne.

"The cause of pre-eclampsia, and identifying which women will develop hypertension in pregnancy, have puzzled health professionals for decades, so we were very keen to present the theories put forward by Dennis and Castro" says Dr Steve Yentis, Editor in Chief of *Anaesthesia*, which is published by Wiley-Blackwell on behalf of the AAGBI.

Dennis and Castro believe that pregnancy is uneventful in women who are able to maintain a sustained, balanced oxygen supply to meet the changing metabolic demands of the fetus. It is when a woman has a reduced capacity to provide oxygen to the fetus that it can become deadly to the mother and baby.

Their new unified theory of pre-eclampsia challenges the current view that pre-eclampsia is caused specifically by a problem with the placenta. It also challenges the widely held view that pre-eclampsia is caused by an as yet unidentified substance that the placenta produces. It proposes that there are many different conditions, either in the mother, in the placenta or in the baby that lead to inefficient oxygen delivery to the baby. The response of the mother is to try and deliver more oxygen to the baby to help the baby grow, but this raises her own blood pressure and damages her body.

"Hypertension, or high blood pressure, in pregnant women remains a serious global problem affecting around 13 million women a year" says the *Anaesthesia* editorial, which was written after the authors analysed research papers from across the world.

Associate Professor Dennis explains: "There has been no decrease in the prevalence of pre-eclampsia over the last 50 years. We were looking for a unified theory to explain why so many pregnant women develop this condition."

Dennis and Castro say that in order to reduce the number of deaths due to pre-eclampsia, the medical profession needs to start demystifying this common cardiovascular consequence of pregnancy.

The *Anaesthesia* editorial says that if the effects of the condition, and its treatment, were better understood in the clinical setting, there would be fewer deaths from the condition.

Pre-eclampsia can be fatal for mothers and babies or cause serious health complications, including seizures, kidney failure, heart failure and haemorrhage.

One in four women with uncomplicated hypertension in pregnancy will develop pre-eclampsia and it is more common in women carrying twins or triplets, women who are obese or women with diabetes.

There is no accurate test to determine which pregnant women will develop the condition. The authors suggest that there is an urgent need to apply the same standards of management in pregnant women that are used in non-pregnant adults with life-threatening heart disease, especially the use of cardiac ultrasound.

Provided by The Association of Anaesthetists of Great Britain and Ireland