Media Release

Blood test to identify women at risk of preterm birth

21 May 2014

A new blood test can identify if a woman will deliver her baby early.

In collaboration with researchers from Canada and Singapore, Associate Professor Craig Pennell from the Women and Infants Research Foundation (WIRF) and University of Western Australia (UWA) School of Women's and Infants' Health, has developed a blood test that can indicate if a woman showing early signs of labour will go on to deliver her baby prematurely.

The blood test identifies if specific genetic signatures associated with preterm labour are present in the blood of women with threatened premature labour (TPTL), and can show whether they will give birth within the next two days.

Based on a study of 150 pregnant women admitted for TPTL before 34 weeks at King Edward Memorial Hospital (KEMH), results found the blood test to be accurate in determining if the woman was experiencing true labour symptoms in 70 per cent of cases, as opposed to existing tests that identify only 15 per cent of women who deliver prematurely.

A/Prof Pennell said "the blood test is much more reliable than current methods in determining if a woman having early contractions will give birth prematurely. Of those women experiencing TPTL, only an estimated five percent will deliver a premature baby within ten days".

"With premature uterine contractions between 20 and 37 weeks of gestation being the most common cause of hospitalization during pregnancy, the test has the potential to improve the management of women who are experiencing true preterm labour, and to reduce unnecessary hospital admissions and medications currently prescribed to women with TPTL", said A/Prof Pennell.

With 8 percent of all Western Australian babies born prematurely each year, better management and prevention of the debilitating and often life threatening condition is a priority for the Foundation's research.

The results of the study have been published in the PLOS ONE journal and the test will be further developed at KEMH and the Mount Sinai Hospital Toronto over the next five years. The study was funded by WIRF and March of Dimes.

A/Prof Pennell is one of the most internationally renowned preterm birth researchers, his research work recently earning him the Presidency of the Preterm Birth International Collaborative (PREBIC), a global organisation of more than 100 preterm birth researchers from six continents. A/Prof Pennell is also the leader of the World Health Organisation International Preterm Birth Genomic Project, where he is identifying genetic risk factors for preterm birth.

In addition to his research work, A/Prof Pennell's performs remarkable work as a Maternal Fetal Specialist Obstetrician, saving and delivering many premature and high-risk babies, and teaches undergraduate medical and postgraduate research students at the UWA School of Women's and Infants' Health.

Media contact: Sarah Cooper, 0416 228 722, sarah@wirf.com.au