mother and child. In most cases, GDM resolves postnatally and NICE recommend a fasting plasma glucose (FPG) measurement at the 6-week postnatal check, to ensure this. However we believe an oral Glucose Tolerance Test (OGTT) would be a more sensitive marker of abnormal glucose metabolism compared to FPG, especially as the long-term cost of managing impaired glucose tolerance (IGT) or type 2 Diabetes Mellitus (T2DM) is significant.

Methodology Postnatal OGTT data for women with GDM, delivering between 09/2008–09/2013 at West Middlesex Hospital, was collected. Of 1115 women, 786 attended for postnatal OGTT (70.4% uptake).

Results Of 786 women undergoing a 6-week postnatal OGTT, 133 (16.9%) had an abnormal result: 34 were diagnosed with T2DM, 34 with elevated FPG alone and 32 with both elevated FPG and 2-hour value. Strikingly, 67 (50.3%) had an elevated 2-hour value at OGTT with a normal FPG: 59 with IGT (2-hour value 7.8–10.9 mmol/L) and 8 with T2DM (2-hour value ≥11 mmol/L), all of which would have been misdiagnosed as normal. Furthermore, 5 women with impaired fasting glucose (6.1–6.9 mmol/L) but a 2-hour value indicative of T2DM would be misdiagnosed.

Conclusion Half of women diagnosed with GDM who have persistent IGT/T2DM are overlooked under current UK guidelines. Given the increasing prevalence of T2DM and its long-term complications, this is a missed diagnostic opportunity. Therefore we recommend that all women with GDM should be offered an OGTT postnatally.

5.4 FIRST TRIMESTER ANGIOTENSINOGEN: KALLIKREIN RATIO IS RAISED IN WOMEN WHO DEVELOP SEVERE EARLY-ONSET PRE-ECLAMPSIA

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Aim Severe early-onset (SEO) pre-eclampsia (PE) is a leading cause of maternal and fetal morbidity in the UK and at present there is not a reliable clinical tool to predict the disease's onset. Hypertension (essential in the diagnosis of PE) has been associated with dysregulation of numerous plasma proteins, both in pregnant and non-pregnant studies. The aim of this work is to identify whether the angiotensinogen to kallikrein ratio is altered in the first trimester of pregnancies that go on to develop pre-eclampsia.

Method We analysed first trimester plasma samples obtained from a phenotypically matched cohort of women who went on to develop SEOPE (n = 30) and compared them to those who did not (n = 30) with angiotensinogen and kallikrein concentrations obtained through label-free mass spectrometry (HPLC-MS^E).

Results There was no significant difference between the demographics of the two groups. All women in the PE group had abnormal Uterine artery waveform Doppler at 24 weeks, whereas the "normal" group did not. Angiotensinogen was up-regulated ($p < 0.001$) and Kallikrein was down-regulated ($p < 0.002$) in first trimester PE samples with a correlation (r) of –0.55 (–0.71 to –0.34).

Conclusion Angiotensinogen: Kallikrein is significantly altered in women who develop severe early-onset pre-eclampsia and may play a role in a future clinical for the condition.

5.5 SUCCESSFUL INSILICO DISCOVERY OF NOVEL HYPOXIA REGULATED GENES IN PRE-ECLAMPSIA

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Introduction Pre-eclampsia is a pregnancy specific disorder with still unknown aetiology. Placental hypoxia is one of the mechanisms suggested in the pathogenesis of pre-eclampsia. Here, we have used insilico techniques to identify differentially expressed hypoxia genes between normal and pre-eclamptic placenta and validated it through reverse transcription-PCR (rt-QPCR).

Methodology The National Centre for Biotechnology's UniGene database was found to contain 20 placental cDNA libraries, out of which three are from normal term placenta and one from pre-eclamptic placenta. Each of these libraries contain thousands of ESTs and by using the data-mining tool digital differential display (DDD), genes with altered expression were identified. These genes were classified into major functional groups and relationship to hypoxia explored using Online Mendelian Inheritance in Man and PubMed. 16 women with pre-eclampsia and 16 normal pregnant women were recruited for this study. Placental tissue was collected immediately after delivery and stored at –80°C. The mRNA expression of hypoxia regulated genes identified through DDD was measured in the placenta of these women using rt-QPCR.

Results and conclusion DDD identified a total of 32 gene clusters to be differentially expressed and six of them were found to be hypoxia regulated. Angiogenin inhibitor, apolipoprotein E, NADH dehydrogenase (ubiquinone) 1, alpha/beta subcomplex, 1 (NDUFAB1) and round about homolog 4 (ROBO4) were the upregulated genes and H19 and growth differentiating factor (GDF15) were the down regulated genes. Rt-QPCR studies showed similar results thus providing a proof that insilico techniques can be used as tools for novel gene discovery in gestational diseases like pre-eclampsia.

5.6 THE CONTROL OF HYPERTENSION IN PREGNANCY STUDY (CHIPS) RANDOMISED CONTROLLED TRIAL

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Background Most obstetricians believe that BP normalisation in pregnancy reduces maternal complications, but may increase adverse perinatal outcomes. No adequately powered trials of differential BP control have been performed.

Objective Determine best management of non-severe pregnancy hypertension.

Methods In an open pragmatic international multicentre trial, women at 14^{+0}–33^{+6} wk gestation with non-proteinuric pre-existing or gestational hypertension, office diastolic blood pressure (dBP) 90–105 mmHg (or 85–105 mmHg if on antihypertensives) and a live fetus were randomised to 'less tight' (target dBP 100 mmHg) or 'tight' control (target dBP 85 mmHg). The

5.4 First trimester Angiotensinogen: Kallikrein ratio is raised in women who develop severe early-onset pre-eclampsia

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