583

A new approach to de novo minimal change disease in pregnancy

Dr Sarah Gleeson[1], Dr Filipa Cardosa[2], Dr Kerry Munro[1], Professor Liz Lightstone[1,3], Dr Tom Cairns[1]
[1]Imperial Healthcare NHS Trust, London, United Kingdom, [2]Centro Hospitalar Lisboa Central E.P.E. , Hospital Curry Cabral, Portugal, [3]Imperial College London, London, United Kingdom

Introduction
Although proteinuria in pregnancy is common and usually due to pre-eclampsia, nephrotic range proteinuria especially early in pregnancy, warrants investigation and treatment. Decisions regarding biopsy and immunosuppressive medications are additional considerations in pregnancy. We present a case of minimal change disease (MCD) presenting in pregnancy treated exclusively with tacrolimus.

Case Report
A previously well, G1P0, 20 year old, presented at 9 weeks gestation with 3 weeks of oedema and shortness of breath.. Examination revealed marked oedema.
Investigations revealed creatinine 44 umol/L (55-110), albumin 7 g/L (35-50), urine PCR 1456mg/mmol. Autoimmune screen was negative. A fetal scan confirmed a viable pregnancy. A renal biopsy was performed which demonstrated MCD. She was started on tacrolimus in addition to enoxaparin, frusemide and aspirin. At 12 weeks she had melena. Her haemoglobin dropped from 115 to 64g/L. Her aspirin was stopped, there was no active bleeding on endoscopy and she had no further episodes in pregnancy.
She was managed by the renal and joint renal-obstetric clinic throughout pregnancy. She was maintained on tacrolimus alone. Her albumin rose and PCR fell throughout pregnancy. By 34 weeks her albumin was 28g/L and her PCR was 128 mg/mmol. Fetal growth was normal on serial growth scans. She did not develop pre-eclampsia. Labour was induced at 39 weeks and she had a normal vaginal delivery of a 3194g healthy baby.

Discussion
There have only been 4 previous reports of de novo MCD in pregnancy all of whom were treated with steroids.
In our patient who presented early in pregnancy with marked oedema and heavy proteinuria a kidney biopsy was performed.
Kidney biopsy should be performed when the benefit of obtaining a diagnosis outweighs the risks of the procedure. In pregnancy the risks of biopsy are increased (7%) compared to outside of pregnancy (1%). Biopsy during the first trimester is safest with a recent metaanalysis reporting no major complications up to 21 weeks gestation compared with a 2% risk of major bleeding between 23-26 weeks. Biopsy is generally not performed after 28 weeks.
Corticosteroids are often used to treat MCD outside pregnancy. Prednisone is safe is pregnancy. It is metabolized by placental 11-b-hydroxysteroid dehydrogenase type 2 to inactive cortisone; therefore, the fetal dose is minimal. However there is a risk of maternal complications including gestational diabetes, weight gain and hypertension.
The recent MinTac trial of prednisolone and tacrolimus in non-pregnant patients with MCD found no difference in remission rates at 8, 16 or 26 weeks and no difference in relapse rates. More patients in the prednsisolone were in complete remission at 4 weeks. We achieved partial remission in this heavily nephrotic patient with use of tacrolimus alone allowing us to avoid steroid adverse effects which was especially important after her GI bleed.
This is the first case report in which tacrolimus was exclusively used to treat MCD in pregnancy. We believe tacrolimus is a valuable option for treatment of MCD in pregnancy either as first line treatment, when steroids are contraindicated or as second line treatment.