Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

P.80 Use of vaginal cell salvage in an unusual case of abnormally invasive placenta

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Introduction: The use of intraoperative cell salvage in obstetric practice is well established. However, reinfusion of vaginally salvaged blood remains controversial due to concerns regarding bacterial contamination. Teare et al found similar levels of bacterial contamination in vaginally salvaged blood compared to that salvaged at caesarean section [1]. We present an unusual case with an abnormally invasive placenta resulting in large volumes of vaginal blood loss.
Case Report: A 32-year-old parturient presented at 21 + 6 weeks in her sixth pregnancy with an abnormally invasive placenta invading the cervix and vaginal vault. The patient had suffered 4500 mL of vaginal blood loss requiring a 7-unit RBC transfusion. A life-saving termination and hysterectomy was undertaken at 22 + 1 weeks of gestation. The patient was consented for the collection processing and reinfusion of vaginal blood loss. Using our trust guideline, this involved the use of 2 separate cell salvage machines (one for vaginal and one for abdominal blood). A combined spinal and general anaesthetic was used with invasive monitoring, 3x 14G cannulae and 8 units of cross-matched blood available. A hysterectomy was performed with the placenta and fetus in situ. Total blood loss was 7500 mL (4000 mL was vaginal). Of this blood loss, 670 mL was reinfused from the abdominal cell salvage, and 1300 mL reinfused from the vaginal cell salvage system. In addition, the patient required five units of red cells, four pools of fresh frozen plasma, one pool of platelets and two pools of cryoprecipitate. Resuscitation was guided by blood gas analysis and thromboelastometry (ROTEM delta). Broad spectrum antibiotics were continued for 48 h post surgery. There was no clinical or biochemical evidence of sepsis. The patient made a full recovery without any significant complications.
Discussion: This adds to the small but growing body of evidence that vaginal cell salvage is a safe and viable option to reduce allogenic blood transfusion. Our observation is consistent with others in that the levels of bacteraemia do not appear to be clinically significant [2]. Postpartum haemorrhage is up to twice as common following vaginal delivery compared to caesarean section, the increased use of vaginal cell salvage has the potential to significantly reduce blood transfusions in this group of women.

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P.81 Anaesthetic challenges of decompensated cirrhosis & COVID-19 in emergency caesarean section

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Introduction: The combination of cirrhosis and pregnancy provide a haemostatic and haemodynamic challenge to the parturient during caesarean section (CS) [1]. We describe the anaesthetic management of an emergency case of decompensating autoimmune hepatitis (AIH) for CS who was also COVID-19 positive.

Case Report: A 38-year-old multiparous woman, with end stage AIH, was found to be pregnant at 20 weeks during liver transplantation workup. She elected to continue her pregnancy and delay transplantation, despite a quoted 80% risk of severe complications from liver disease and 5% risk of mortality. She remained well antenatally, managed on azathioprine, prednisolone and spironolactone and had an endoscopy at 27 weeks, which showed grade one oesophageal varices. At 36 weeks she presented with worsening peripheral oedema and deteriorating liver function tests. She had a normal platelet count, raised prothrombin time and fibrinogen of 1.4 g/L with a reduced maximum amplitude on thromboelastography (TEG6). A suboptimal cardiotocograph precipitated an urgent CS. The patient had fibrinogen concentrate 1 g whilst an arterial line was sited and a spinal anaesthetic. She was tachycardic, with skin mottling, but cardiovascularly stable on a high dose phenylephrine infusion. Tranexamic acid, further fibrinogen 1 g and 1000 IU of prothrombic complex (PCC) was given as guided by point of care testing. As 4 L of ascites was drained rapidly pre-delivery, 1 L of 5% albumin was given in addition to crystalloid. The baby was born in good condition, there was no PPH and an ascitic drain was placed. The COVID-19 test came back positive.
Discussion: AIH generally improves during pregnancy, but 20% of patients experience a flare [2]. It is unclear whether the stress of the advancing pregnancy, an AIH flare or infection with COVID-19 precipitated the decompensation in this patient. The evolving physiology was most in keeping with liver failure. In our institution both obstetric and liver bleeding is managed with TEG6 guidance. Factor concentrates (fibrinogen and PCC) were chosen perioperatively for speed and ease of administration. As with liver patients, albumin was used to prevent hypotension from rapid fluid shifts after ascites drainage just before delivery, and to limit progression to hepato-renal syndrome. Good communication and weekly obstetric review meant that clinical deterioration was recognised quickly, in time for a favourable feto-maternal outcome.

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P.82 Two cases of severe peripartum coagulopathy in women with mild COVID-19 infection

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Introduction: COVID-19 associated coagulopathy (CAC) is associated with thrombotic events and severe infection [1]. Maternal data are limited. We present two cases of significant coagulopathy with hypofibrinogenaemia at the time of delivery in women with mild COVID-19 infection.
Case Reports: Case 1: A healthy multiparous 32-year-old parturient presented at 29 weeks with reduced fetal movements and a mild cough, having reported a negative test for SARS-CoV-2 prior to admission. A pathological cardiotograph (CTG) necessitated emergency caesarean delivery, performed under spinal anaesthetic. Bleeding from the wound was noticed postoperatively. Admission bloods received post-delivery showed coagulopathy confirmed by rotational thromboelastometry (ROTEM): Platelets 34×10^9/L, PT

14.8 s, APPT 46.7 s, fibrinogen 0.34 g/L, EXTEM CT/A5 272 s/9 mm, FIBTEM A5 undetectable. She was treated with a total of 9 g fibrinogen concentrate, 4 units FFP and 2 units platelets. SARS-Cov-2 infection was later confirmed.

Case 2: A 24-year-old primigravida with diabetes mellitus presented with reduced fetal movements at 30 weeks. She had confirmed SARS-CoV-2 infection with ongoing cough and fever. Emergency caesarean delivery was required for a pathological CTG. Admission bloods showed derangement: Platelets 120×10^9/L, PT 11.1 s, APTT 75.5 s, fibrinogen 0.82 g/L, EXTEM CT/A5 79 s/39 mm, FIBTEM A5 6 mm. After treatment with 9 g fibrinogen concentrate, caesarean delivery was carried out under general anaesthetic. Intraoperative blood loss was less than 500 mL in both cases. Both had an uneventful recovery.

Discussion: These two cases of significant coagulopathy occurred in parturients with mild COVID-19 infection and no other potential causative diagnoses. CAC is usually regarded as a thrombogenic syndrome arising from severe infection. Early data [2] provisionally reported that pregnant CAC cases were rare, with prolonged PT/APTT, thrombocytopenia and raised D-dimer as key features. Our cases, however, had significant hypofibrinogenemia and occurred alongside mild infection. This has significant implications as decisions about safety of neuraxial block may be required rapidly, when SARS-CoV-2 status or blood results are unknown. The alternative of general anaesthesia also carries increased risk. Our unit has since adopted a requirement for FBC, clotting screen and fibrinogen on admission if suspicion of or proven COVID-19, although this is not covered by national guidance at present.

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P.83 COL4A1 mutation - the new kid on the block

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Introduction: The COL4A1 mutation first reported in 2005 is located on chromosome 13 and encodes for the alpha-1 chain of type VI collagen [1]. Defects in this gene cause weakness in the vascular basement membrane which can result in lacunar stroke and cerebral haemorrhage [2]. We report the case of a parturient with a COL4A1 mutation that underwent a spinal anaesthesia for a caesarean section (CS).

Case Report: A 35-year-old G2P1 with a somatic mosaic for COL4A1 mutation required an emergency CS due to a fast advancing labour (8 cm dilated at time of decision for surgery). The patient was seen in the obstetric antenatal clinic and advised against labouring due to the associated haemodynamic changes and increased risk of intracerebral bleeding. The patient was not seen in the anaesthetic clinic and unknown to our services. Obstetric history included a CS over ten years ago under a neuraxial block. Her COL4A1 mutation was not known at that time and was only investigated due to congenital defects noted in her first child. Our patient was unique in that she was the first person ever to be identified as having a somatic mosaicism for the mutation and at the time of presentation showed no overt symptoms. Her other past medical history was unremarkable. Spinal anaesthesia was performed. A 25G spinal needle was inserted at the L4-5 interspace on first attempt. Hyperbaric bupivacaine 12.5 mg and diamorphine 400 μg gave a cold sensory block to T3. Her blood pressure was titrated using a phenylephrine infusion with her systolic readings staying between 120 and 140 mmHg throughout. There was minimal blood loss and the patient made an uneventful recovery.

Discussion: The major concern in this disorder is the fragility of the vascular basement membrane resulting in intracerebral bleeding, thus the primary anaesthetic target should be prevention of hypertension. It was our view that a spinal anaesthesia would offer the safest haemodynamic control balanced against the unknown risk of neuraxial haematoma in this condition. The COL4A1 mutation is a relatively new discovery with limited case reports and none to our knowledge being published in reference to the obstetric population. Our patient, although the first to be identified with a somatic mosaicism, will not be the last as more women of child bearing age will be picked up incidentally through genetic screening. Our case report highlights that a spinal anaesthesia can be carried out safely in this condition when careful attention is paid to ensuring haemodynamic stability.

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P.84 Phaeochromocytoma: a rare cause of hypertension in pregnancy

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Introduction: Undiagnosed phaeochromocytoma, although a rare cause of hypertension in pregnancy, is associated with significant morbidity and mortality if missed [1]. This case report highlights the diagnosis and subsequent clinical management at our tertiary obstetric unit.

Case Report: A 34-year-old G4P1, presented at 33 weeks gestation with incidental severe hypertension at routine antenatal review. Gestational diabetes in her previous pregnancy was controlled with metformin but required insulin therapy in this pregnancy. She was admitted and commenced on labetalol and then nifedipine as per local guidelines, but remained hypertensive despite maximal therapy. Pre-eclampsia tests protein-creatinine ratio and placental growth factor were negative, so a renal ultrasound scan was performed. This showed a retroperitoneal lesion, with MRI confirming an adrenal mass. Normetadrenaline levels were 16 times greater than normal confirming phaeochromocytoma. Doxazosin was started, labetalol weaned and the patient transferred to our centre. There was a significant reduction in insulin requirements, felt to be an effect of alpha and beta blockade, though triggering a review for signs of placental failure. The MDT decision was to proceed with elective caesarean section at 37 weeks. Blood pressure was controlled with doxazosin, bisoprolol and nifedipine. After arterial line insertion, single shot spinal anaesthesia produced adequate anaesthesia, after attempted CSE was complicated by dural puncture. Blood pressure was maintained with a metaraminol