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Ruptured renal artery aneurysm in pregnancy

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Introduction

Renal artery aneurysms (RAA) during pregnancy are rare and associated with high mortality for mother and foetus. This case involves a woman presenting in late pregnancy with sudden onset abdominal pain and cardiovascular collapse.

Case report

This case involves a 38-year-old woman with a past history of a renal transplant in 2018 for IgA nephropathy, hypertension and gestational diabetes. She was taking methyldopa, metformin, tacrolimus, aspirin, lansoprazole, folic acid and prednisolone. Due to deteriorating renal function (urea 8.3mmol/L creatinine 156 µmol/L), a plan was made for early induction of labour. However, she presented acutely to labour ward at 34+6 weeks, pale and drowsy, with severe abdominal pain. The provisional diagnosis was of placental abruption. A rapid bedside USS showed no evidence of intrauterine bleeding, but a sustained foetal bradycardia resulted in a decision for a category 1 caesarean section. A major obstetric haemorrhage was declared which was complicated by the need for irradiated blood products. Given the uncertainty of the diagnosis and the potential need for laparotomy, the decision was made for general anaesthesia: induction and intubation were uneventful. The patient was actively warmed. Resuscitation comprised 2.5L crystalloid, RBC 6 units, FFP 4 units, fibrinogen concentrate 2g and tranexamic acid 1g. On opening the abdomen, 700ml of extrauterine blood was found and a male infant successfully delivered by caesarean section. There was no evidence of placental abruption. The neonate required extensive resuscitation and immediate transfusion. The woman remained stable throughout. Serial TEGs were used to guide blood product replacement. After intrauterine haemostasis, exploration of the source of fresh bleeding in the abdomen revealed a large retroperitoneal haematoma.

The patient was urgently transferred to interventional radiology where angiography revealed an active haemorrhage from a large (3.5cm) left mid RAA in the patient's native kidney. The intraparenchymal aneurysm was embolised with a plug to the feeding vessel proximally. Of note, 3 splenic aneurysms were also identified but were not treated at this time. The patient was extubated uneventfully and, after a short stay in HDU, made a full recovery. She was discharged home 11 days later awaiting MDT discussion of the remaining aneurysms.

Discussion

This case was complicated by the need for irradiated blood products which were issued without delay as a result of repeated antenatal sampling due to her renal comorbidity. Visceral artery aneurysms are rare (0.01-0.1% incidence). Acute rupture in pregnancy is catastrophic resulting in significant mortality to the mother and foetus (70-75% and 95% respectively). RAA are most likely to rupture during the third trimester. This is thought to be due to haemodynamic and hormonal changes.[1]RAA should be considered as a differential diagnosis in pregnant women presenting with abdominal pain and haemodynamic instability in order to facilitate early diagnosis and immediate intervention.

References

1. Juntermanns B, Bernheim J, Karaindros K, et al. Visceral artery aneurysms. Gefasschirurgie 2018; 23:19-22