Massive placental chorangioma incidentally diagnosed as a cause of intrauterine growth restriction, preterm premature rupture of membranes in a primigravida.

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Abstract

Introduction: Placental chorangiomas are rare benign tumours of the placenta with an estimated rate of 1:9,000 to 1:50,000 (1). Chorangiomas are described as abnormal differentiation of placental tissue with an excessive proliferation of chorionic mesenchyme (2). The size of the chorangioma appears to correlate to the clinical significance for the foetus (3). A systematic review of the literature reports that chorangiomas over 5cm in diameter appear to have greater effect on the foetus (1).
Case: This report is a discussion of a large chorangioma incidentally diagnosed on bedside ultrasound in a 31+3 primigravida who presented with premature prelabour rupture of membranes (PPROM), dysuria and lower abdominal pain. Ultrasonography revealed fetal growth restriction and an avascular tumour within the placenta. CTG (cadiotocography) of the fetal cardiac activity revealed an abnormal trace indicating potential fetal distress. An emergency caesarean section was performed due to the abnormal cardiotocogram and a growth restricted preterm neonate was delivered, weighing 1,430g Post caesarean section histopathological examination of the placenta revealed a large chorangioma (Fig1 – 5.)
The neonate post-delivery was found to have cardiomegaly, hepatomegaly, splenomegaly and anaemia which are clinical features consistent with the effects of a large placental chorangioma (2).
Conclusion: In the discussed case, the placental tumour was diagnosed by bedside ultrasound during an emergency presentation for PPROM. This case highlights the classical presentation of a large placental choangionoma and the resulting effects on the fetus.

Background

First described in 1789 a chorangioma is a harmatomous lesion of the placenta (1). Chorangiomas are placental tumours that reflect inappropriate differentiations of surrounding tissues with an excessive expansion of blood vessels in chorionic villi (2). The largest study of placental chorangiomas observes the prevalence of 0.61% in 22,439 placentas (2), although other studies state a chorangioma prevalence rate varying between 0.41% to 1.4% (3,4). Chorangiomas have no malignant potential (5,6,7). Three major histologic types of chorangiomas have been described; angiomatous (capillary), cellular, and degenerative. The angiomatous variant is the most common type (6,9,10). Large chorangiomas of more than 5cm, like the tumour seen in this case study, have been reported to occur at a rate of 1:3,500 – 16,000 births). Most Chorangiomas as asymptomatic, but large or multiple chorangiomas can seriously affect both mother and fetus. Complications range from 30% to 50% and include polyhydramnios, preterm labour, foetal haemolytic anaemia, foetal thrombocytopenia, cardiomegaly, intrauterine growth restriction, placental abruptions, preeclampsia and congenital abnormalities (1).

Discussion

Large chorangiomas can have potentially detrimental effects on both mother and fetus. It is understood that tumours of less than 5 cm are usually missed, have no clinical features and are unlikely to cause maternal and fetal complications. Chorangiomas greater than 5cm are associated with fetal and maternal complications.
Chorangiomas are often diagnosed on ultrasound. The classical ultrasound findings include a well-defined complex echogenic mass different from the rest of placenta, where the tumour protrudes into the amniotic cavity near umbilical cord insertion (11). Placental chorangiomas are usually managed with expectant management, as the majority of tumours are asymptomatic. Small tumours i.e <5cm are usually monitored with ultrasound every 6-8 weeks, whilst large tumours >5cm are monitored with more frequent imaging (approx.) every 1-2 weeks (11). Watter et al published a critical appraisal and systematic review of the literature regarding clinical interventions of complications arising from, and the treatment of, large placental chorioangiomas. There are several potential treatments for complications arising from placental chorangiomas responsible for maternal or fetal complications (12). These interventions vary depending on the complications arising, but generally involve reducing the placental tumour or treating the arising fetal or maternal complications. These interventions include, but are not limited to, serial fetal transfusions, fetoscopic coagulation of vessels suppling the tumour, chemosclerosis with absolute alcohol and endoscopic surgical devascularisation (12).
In this case the chorangioma was initially diagnosed at morphology scan but was not appropriately followed up after diagnosis. The patient was, at that time, only under low-risk, midwife-led antenatal care. Escalation of care at initial diagnosis, appropriate investigations and interventions may have improved fetal outcome. Regular fetal monitoring was ideally indicated in this case.
This case highlights the importance of careful clinical handover and communication of clinical care of a patient and the recognition of a deteriorating patient and to react accordingly.

Case

Ms MJ is a previously healthy 30-year-old non-English speaking background, Indian immigrant & homemaker who presented to the maternity assessment unit at Werribee Mercy Hospital at 31 weeks and 3 days with a history of Premature Prelabour Rupture of Membranes (PPROM). MJ had a pre-pregnancy weight of 59.00 kg and a height of 165cm, giving her a body mass index of 21.0. Her blood group was B positive, and her standard routine antenatal testing was all unremarkable. Ms MJ was a primigravida, a non-smoker and a non-drinker with nil known allergies and with no significant medical or surgical history. Antenatally she was a recent uncomplicated transfer of care from another hospital.
On examination the patient was hemodynamically stable and afebrile. She was noted to have a soft, nontender, pregnant abdomen, although her uterus was mildly irritable. Ms MJ reported dysuria, normal foetal movements, clear liquor draining and irregular uterine activity. On speculum examination she had a long-closed cervix with a positive Amnisure and a foul urine odour with copious amounts of fluid in her posterior fornix, and there was no per vaginal bleeding.
On bedside ultrasound, the relevant findings noted were a cephalic foetus that appeared growth restricted and a large hyperechoic mass in the placenta. The cardiotocograph (CTG) reported an abnormal trace with decreased variability, nil accelerations, nil deaccelerations and a baseline foetal heart rate of 130 beats per minute (bpm).
Initial investigations included repeating antenatal serology screening, a full blood count, urea and electrolytes, liver function tests, c-reactive proteins, alpha foetal protein, coagulation profile, a full ward test, an Amnisure, and a high vaginal swab.
As the CTG did not improve despite monitoring, repositioning, fluid blouses, Celestone loading, treatment for premature labour and treatment of the urinary tract infection, a decision was made in conjunction with the paediatric team to proceed with a category 1 emergency caesarean section.
An uncomplicated lower uterine caesarean section was performed with 400ml blood loss and a severely growth restricted neonate was delivered and handed over to the paediatricians.
At caesarean section, of note was a large mass attached to an enlarged placenta, both of which were sent for histopathological examination.
Histopathological examination of the placenta indicated a large placenta of 751g between 97th-100th centile as per gestational age, with a separate mass which demonstrated features consistent with a benign chorangioma (140x115x65mm). There is evidence of hydropic changes and oedema in the placental parenchyma. All other histopathological findings were unremarkable.

Placental Chorangioma

Fig1: Image of placenta with an irregular disrupted area at one edge to which the mass was attached

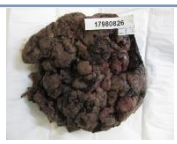

Fig 2: Placental chorangioma separated from placenta

Fig 3: Cut surface of placental chorangioma

Fig4: Fresh placenta with an irregular disrupted area at one edge to which the mass was attached

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