A Case of Placental Mesenchymal Dysplasia

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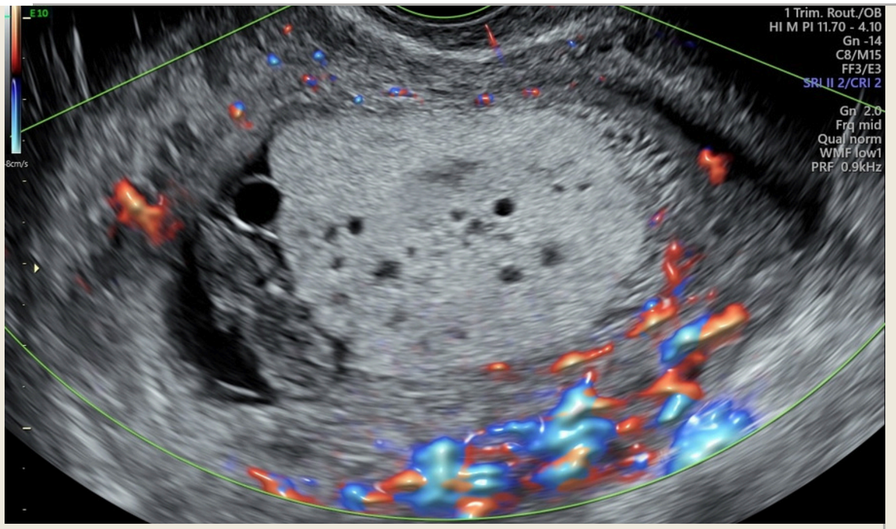


Background

Placental mesenchymal dysplasia (PMD) is a rare condition characterised by abnormal trophoblastic and villous tissue growth, with an incidence estimated at 1 in 20,000 to 1 in 100,000 pregnancies and less than 100 cases reported globally (2). It is often misdiagnosed as a molar pregnancy due to overlapping ultrasound features (1). Given its rarity, PMD is frequently under-reported, complicating clinical management and care.

Placental Mesenchymal Dysplasia is a rare condition, with less than 100 cases reported globally.

References

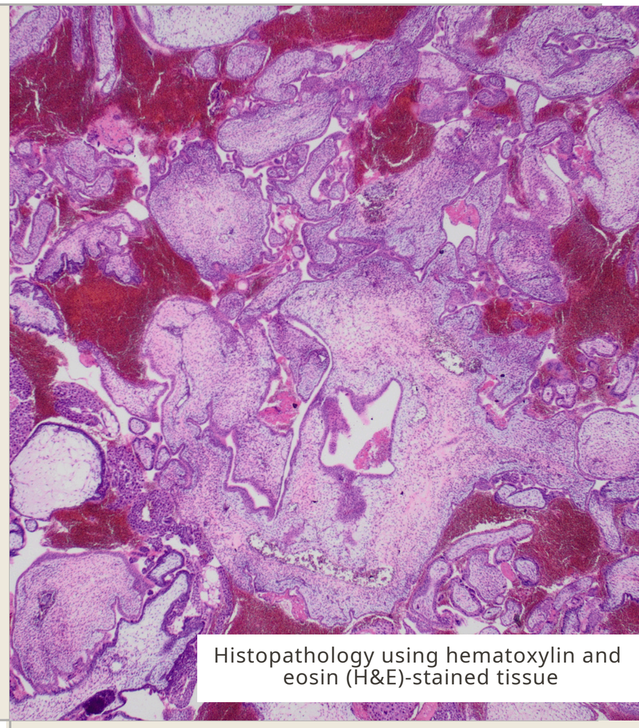
1) Carter, M. L., et al. (2011). Placental mesenchymal dysplasia: An updated review of the pathology and clinical features. American Journal of Obstetrics & Gynecology, 204(2), 147-153.
2) Wang, C., et al. (2021). Placental mesenchymal dysplasia and its management: A clinical review. PMC, 2021.

Case

A 25-year-old woman at 10 weeks gestation presented with abdominal pain, nausea, and vomiting. Transvaginal ultrasound revealed a gestational sac (GS 43.2mm), an embryo of 28.4mm with absent cardiac activity, and a placenta with multiple cystic spaces and enlarged chorionic tissue.

Blood tests showed a bHCG of 427,358 IU/L, mildly elevated inflammatory marker (CRP 9.6), and mild liver function derangement. A diagnosis of missed miscarriage was made, and a dilatation and curettage (D&C) was performed. Histopathology revealed villous enlargement, oedema, trophoblast proliferation, and an absent P57 immunostaining, confirmed placental mesenchymal dysplasia - with a diploid genotype confirmed by Fluorescence in-situ hybridization karyotyping.

One month later, the patient required a repeat D&C for retained products confirmed on ultrasound. The patient recovered without complications.



Histopathology using hematoxylin and eosin (H&E)-stained tissue

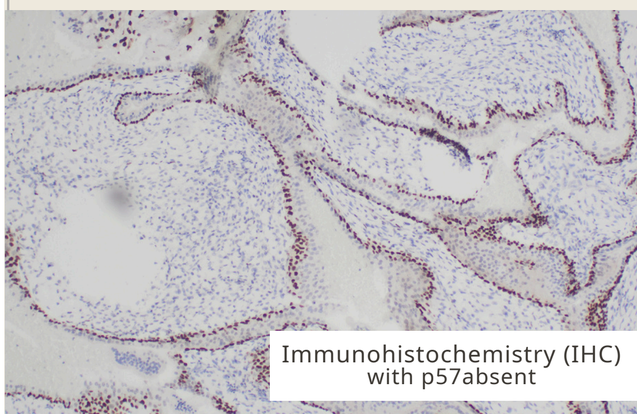
Discussion

This case highlights the diagnostic challenges in managing early pregnancy loss, particularly in distinguishing placental mesenchymal dysplasia from other molar pregnancies. PMD is often mistaken for a partial molar pregnancy due to its similar ultrasound findings, including an enlarged, cystic placenta. However, PMD is genetically diploid, in contrast to the triploid karyotype typically seen in molar pregnancies. Histopathological features, including villous enlargement, oedema, and trophoblast proliferation, as well as the absence of P57 immunostaining in the villi, were key to confirming the diagnosis in this case.

Management of retained products of conception and repeated D&C procedures are crucial for preventing complications like infection or persistent bleeding, as highlighted by previous studies on molar and non-molar trophoblastic diseases (1,2). The risk of recurrence and implications for future pregnancies require careful counselling and monitoring. This case underscores the importance of histopathological analysis and timely intervention in managing abnormal placental conditions.

Conclusion

This case highlights the importance of distinguishing PMD from molar pregnancies through histopathological analysis, ensuring accurate diagnosis and appropriate clinical management.



Immunohistochemistry (IHC) with p57absent