A Case of Isolated Blake's Pouch Cyst

Affiliations:
1. Dr Christy Ko, Eastern Health

Introduction

Often noted incidentally on antenatal ultrasound, Blake's pouch cysts (BPC) describe an avascular cyst in the posterior fossa, due to abnormal ballooning of the superior medullary vein into the cisterna magna (1). They are a rare entity which usually occur in isolation (95%) and resolve by 26 weeks gestation in 50% of cases (2). Here we discuss a finding of BPC at 30 weeks of gestation, and explore appropriate investigations in the absence of other brain abnormalities.

Case

This case describes a 26-year-old G7P0 who presented with symphyseal-fundal height discordant with her gestation of 30 weeks 2 days. Her antenatal screenings were normal, although she declined aneuploidy testing. On sonography for foetal growth monitoring, an 8mm BPC was identified; the foetus was assessed at EFW >97th centile (Mikolajczyk). She was counselled by the Obstetric Medicine team regarding the BPC and potential of further abnormality, and advised for a COGU scan and additional serological tests including CMV, syphilis and toxoplasma screening.

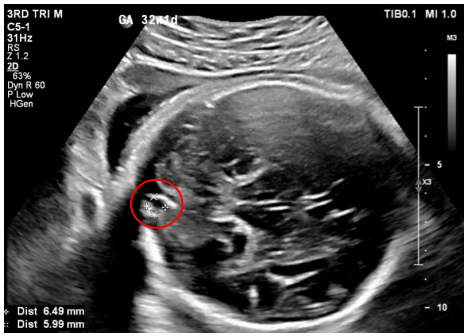
Her COGU scan confirmed a 6.5mm irregular cystic structure posterior to the cerebellum, with intact vermis and cisterna magna not enlarged. Her serology screen was also negative for antenatal infection.
An obstetric MRI was organised through a tertiary centre, which showed no evidence of retrocerebellar cyst and a ventricular system sized at the upper limit of normal. The remainder of the pregnancy was uneventful, and the following ultrasounds showed no sign of the initially identified cyst. This patient had a caesarean delivery of a healthy baby boy at 38 weeks gestation.

Discussion

Existing literature outlines obstetric MRI as the gold standard for diagnosis and differentiation from abnormalities such as mega cisterna magna (communicates with 4th ventricle and subarachnoid space), a simple arachnoid cyst (no hydrocephalus), or other Dandy-Walker malformations (3). For non-isolated cases, invasive testing and microarray are suggested to rule out chromosomal abnormality as a cause (2). Serology tests can be helpful in ruling out infectious causes of neurological abnormality; however, there is no clear indication for this in isolated cases of BPC.

Conclusion

Although uncommon and often self-resolving, BPC should always be appropriately investigated when identified, to ensure it is not misdiagnosed in lieu of more serious neurological malformations or as part of a chromosomal syndrome.



References:
1) Ramaswamy S, Rangasami R, Suresh S, Suresh I. Spontaneous resolution of Blake's pouch cyst. Radiol Case Rep [internet]. 2015 [accessed 2024];8(4):877. doi:10.2484/rcr.v8i4.877
2) Blake's pouch cyst. fetalmedicine.org. Updated 2024. Accessed 2024. https://fetalmedicine.org/education/fetal-abnormalities/brain/blakes-pouch-cyst