Arachnoid cyst: A Case report

T. Startseva¹, M. Alawneh¹, J. E. Aupont¹, G. Reyes¹, L. Touman¹, M. Singh².
Kypros Nicolaides Fetal Medicine Unit, Southend University Hospital

Introduction:
Arachnoid cysts are congenital benign fluid collections within the arachnoid membrane—one of the 3 membranous layers that cover the brain and the spinal cord. The cyst is filled with a fluid similar to cerebrospinal fluid (CSF). The incidence is about 1% of all intracranial space-occupying lesions.

Case:
A 20 year old type 1 diabetic, Para 0+1 with history of termination of previous pregnancy at 23 weeks due to sacral agenesis attended the unit for routine first trimester scan. During this scan at 12 weeks +6 days a posterior fossa abnormality was suspected and rescan was arranged. At rescan (17 weeks +3 days), showed a hypoechoic area 10 x 11 mm in the posterior part of the brain suggestive of a ? arachnoid cyst. TORCH screening was performed and was reported negative for fetal infections. Fetal MRI at 22 weeks confirmed arachnoid cyst between the occipital lobes and partial agenesis of corpus collosum. At 25 weeks gestation borderline ventriculomegaly, arachnoid cyst in the posterior part of the brain, partial agenesis of corpus collosum, growth on the 3 rd centile, Dopplers normal. Fetal MRI at 32+5 weeks: Arachnoid cyst (between the occipital lobes and extending into the velum interpositum), midline abnormalities (partial absence of corpus callosum), ventriculomegaly 14 mm, hypoplasia superior cerebellar vermis, suspected cortical abnormalities (polymicrogyria). At 36 weeks admitted for steroids. Induction of labour at 37 weeks. Due to prolonged second stage of labour baby delivered by LSCS. Baby was born in good conditions, weight 3045, Apgar 9-9.

Discussion:
• Arachnoid cysts are collections of cerebrospinal fluid within the layers of the arachnoid membrane; the cyst may or may not communicate with the subarachnoid space.
• Arachnoid cysts are typically located on the surface of the brain, usually close to the cerebral fissures within the anterior, middle, and posterior fossa. They may occur as an isolated lesion or associated with other brain malformations, such as agenesis of the corpus callosum, absent cavum septi pellucidi, deficient cerebellar lobulation, and Arnold-Chiari type I malformation.
• Many of these associated findings do not become sonographically apparent until the late second trimester.
• Arachnoid cysts have not been associated with chromosomal aneuploidy.
• Symptoms depend on size and location. Seizures and headache are said to be the most common symptoms of middle cranial fossa cysts. The definitive treatment for arachnoid cysts is surgery and the indications for surgery most likely are the presence of progressive hydrocephalus or intracranial hypertension. In recent years there has been some interest in whether or not intracranial arachnoid cysts are the source of psychological, psychiatric, and higher cognitive functions impairment.

References: