18th World Congress in Fetal Medicine

Prenatal diagnosis of arachnoid cysts: MRI features and neurodevelopmental outcome

Yahal O, Katorza E, Zvi E, Berkenstadt M, Hoffman C, Achiron R, Bar-Yosef O
Sheba Medical Center, Tel Hashomer, Israel, Ramat Gan, Israel

Objective

Arachnoid cysts (AC) are congenital lesions comprising 1% of all intracranial mass lesions. The aim of this study was to characterize arachnoid cysts and their neurodevelopmental outcome and to compare it with the outcome of children without AC.

Methods

This is a retrospective cohort study of arachnoid cysts detected prenatally by fetal MRI in 29 fetuses compared to a control group of 59 fetuses without arachnoid cyst who were examined by MRI. The cohort was investigated from two different angles: anatomical and developmental. Anatomical analyzation, the cohort was divided into 2 groups by the arachnoid cyst anatomical location: group A (n=9), which included cases with supratentorial cyst, and group B (n=20), which included cases with infratentorial cyst. Developmental analyzation, the cohort was divided into 2 groups by the neurodevelopmental outcome: group γ (n=5) which included cases that were affected by arachnoid cyst presence, and group δ (n=17) which included cases that had neurodevelopmental outcome within the normal range. Data collected included prenatal history, MRI features, sonographic follow up, and neurodevelopmental outcome.

Results

In 22/29 cases we achieved a long-term follow up, by evaluation of children development in a range of ages from 6 months to 6 years. In group A (n=9), 4 infants had normal outcome, 2 had abnormal outcome, 1 pregnancy was terminated, and 2 cases were not cooperative with the study. In group B (n=20), 13 infants had normal outcome, 3 had abnormal outcome, and 4 cases were not cooperative with the study.

Conclusion

From all cases with AC detected by fetal MRI, 77.3% had normal neurodevelopmental outcome and 22.7% had abnormal neurodevelopment.