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Prognosis of fetal intra-abdominal calcifications (IACs) - A single center study

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Objective

Intra-abdominal calcifications (IACs) are small, punctate areas of abnormal brightness, as echogenic as the bone. Fetal IACs can be associated with aneuploidies, fetal infections and growth restriction. The objective of our study was to assess the location and prognosis of fetal intra-abdominal calcifications.

Methods

This is a retrospective study of prospectively collected data from a single tertiary fetal care center of all fetuses detected to have IACs from 16 to 38 weeks with known outcomes. The study period is from January 2015 to December 2019. A detailed ultrasonography for the location and associated anomalies was performed by FMF certified operators for 18 – 24 weeks' scan. Amniocentesis for karyotype and infection diagnosis was offered to all. All examinations were recorded on Astraia fetal database software. Outcome of the pregnancy was obtained by telephonic conversation with the parents and examination of the delivery details in the hospital records.

Results

25 pregnant women with fetal IACs were identified from the database. 17/ 25 (68%) had liver calcifications and 8 (32%) had extrahepatic calcifications. 23 were isolated, one had associated ascites and one had an associated heart defect. The latter terminated the pregnancy without investigations; 2/24 (8.3%) had an abnormal karyotype (T21, Mosaic 45XO), both isolated. 2 had a normal karyotype (one with fetal ascites) and 20 were presumed to have normal karyotype as they had healthy normal live births (22/ 24, 91.7%). The fetus with ascites was suspected to have an IVC thrombosis antenatally that was confirmed postnatally. 21/ 22 (95.4%) liveborn had appropriate birthweight and one was on the 10th centile.

Conclusion

Hepatic calcifications are more frequent than the extrahepatic calcifications. Majority are isolated; however, they may be associated with aneuploidies. Karyotyping is recommended in all cases. In our study, we had no cases of fetal infection. IACs, when isolated, have a favorable outcome after excluding associated structural and chromosomal abnormalities.