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Prenatal diagnosis of fetal cardiac rhabdomyoma – four cases

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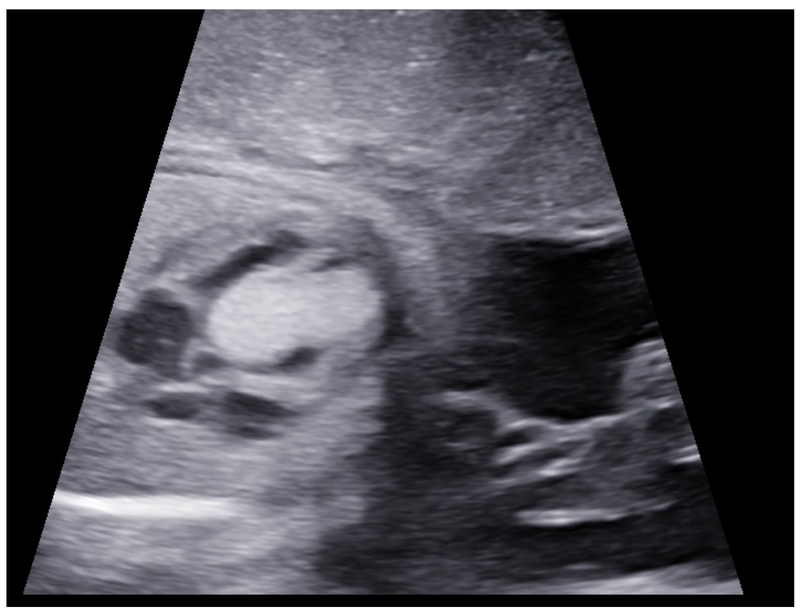
Objectives

Fetal cardiac tumors are rare conditions and their incidence ranges from 0.08% to 0.2%. Rhabdomyomas are the most frequently detected fetal cardiac tumor and are found within the ventricular cavities, ventricular wall and septum.
In 50–86% of cases, rhabdomyomas are associated with tuberous sclerosis, often presenting malformations of the central nervous system, skin and kidneys. Cardiac tumors are the earliest in utero manifestation of this disease. The aim of this study is to present the different pregnancy outcomes of prenatally diagnosed cardiac rhabdomyoma.

Methods

This is a retrospective study with prospectively collected data between January 2020. to December 2022. The study was performed in Clinic of Obstetrics and Gynecology of University Clinical Center of Vojvodina and included four cases of pregnancies complicated with prenatally detected fetal cardiac rhabdomyoma. The fetal ultrasonographic scan was performed by trained obstetrician using a 5 MHz transabdominal transducer from Samsung Hera W9 ultrasonography device.

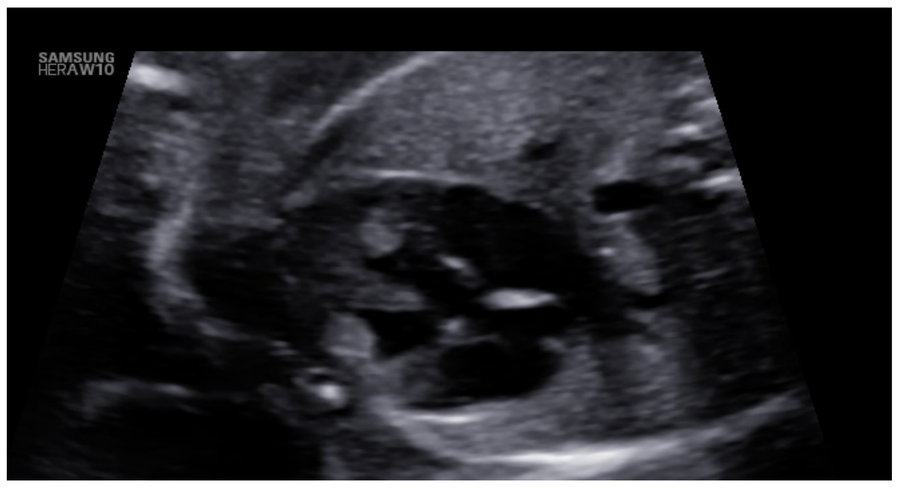


Results

During the study period four cases of pregnancies with hyperechogenic fetal cardiac mass were followed.
Gestational age ranged from 25 to 37 weeks and maternal age ranged from 21 to 38 years.
All pregnancies were singular, normal and regularly controlled, three of those were spontaneous, and one was from in vitro fertilization program. All fetuses had normal results of chromosomopathy screening from the first trimester. Sonographically all fetal cardiac mass were detected as well-circumscribed, rounded, homogenous, hyperechogenic intramural or intracavitary nodules, which corresponds to the rhabdomyoma characteristics. Tumor size ranged from 3,9x4,1mm to 30x28mm. One fetus had single nodule localized in the right ventricular wall, while other three had multiple nodules. Only one fetus had brain lesions as a part of tuberous sclerosis, and that pregnancy was ended as preterm induced labor in 29th gestational week, but after feticide was performed. Also, we had another feticide and preterm induced labor because cardiac tumors caused subaortic obstruction. Both findings were confirmed by fetal autopsy. Two babies were delivered, one by Caesarian section, and another one vaginally. Complete tumor regression was seen in both fetuses during the postnatal life.

Conclusion

Fetal rhabdomyomas are rare condition. Those are benign tumors, but some of them can cause hemodynamic heart problems and sometimes they are the first manifestation of the tuberous sclerosis. But not all pregnancies with cardiac rhabdomyoma have a bad outcome.



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