Intrapericardial teratoma as a cause of fetal death – a case report

Skálová H., Povýšil C.

Institute of Pathology, 1st Faculty of Medicine, Charles University and General University Hospital in Prague, Czech Republic

SUMMARY
Intrapericardial teratoma is a rare congenital tumor that without treatment leads to cardiac failure in either the prenatal or postnatal period. Early diagnosis and recent surgical advances can, in some cases, delay development of intrauterine symptoms and allow final treatment through a tumor resection. However, a large number of intrapericardial tumors go undetected during prenatal diagnostics, until they are found as a cause of intrauterine death or postnatal cardiorespiratory insufficiency, as in our case report. An abortion was induced in the 23rd gestational week because there was no cardiac activity detected during a routine ultrasound scan in a 35-year old woman. The tumor was found during the postmortem of the fetus.

Keywords: teratoma – heart neoplasm – fetal death

Intraperikardiální teratom jako příčina intrauterinního odumření – kazuistika

SOUHRN
Intraperikardiální teratom je vzácný kongenitální nádor, který bez léčby vede ke kardiálnímu selhání buď již v prenatálním nebo postnatálním období. Včasná diagnóza a současné chirurgické metody však v některých případech mohou zabránit intrauterinnímu rozvinutí komplikací a posléze postnatálně umožnit i definitivní léčbu resekcí nádoru. Velké procento perikardiálních tumorů však stále prenatální diagnostice uniká a jsou odhaleny až jako příčina intrauterinního odumření plodu nebo postnatálního kardiorespiračního selhávání, jak tomu bylo i u 35-leté ženy ve 23. týdnu těhotenství. Při rutinním ultrazvukovém vyšetření nebyla zastižena srdeční akce plodu a následoval indukovaný potrat. Vlastní tumor byl nalezen až při nekroptické sekci plodu.

Klíčová slova: teratom – nádor srdce – intrauterinní odumření

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Intrapericardial teratoma is a rare congenital tumor, which without treatment leads to cardiac failure in either the prenatal or postnatal period. Less than 100 cases have been described since the first case in 1890 (1). Prenatal diagnosis is based on routine ultrasound investigations, that usually reveal the tumor either coincidentally or as a cause of fetal hydrops. The most frequent symptom is a pericardial effusion, which results from an obstruction of cardiac and pericardial lymphatic veins and/or a ruptured cystic tumor. Rapidly increasing amounts of intrapericardial liquid put the fetus at increased risk of cardiac tamponade. In addition to fluid compression, the heart can also be compressed by the tumor itself. The second most common symptom, and a sign of intrauterine circulation failure, is fetalis hydrops, which must also be seen as a very unfavorable prognostic indicator. Early diagnosis together with recent surgical advances can, in some cases, compensate for the intrauterine situation, prevent complications or at least decelerate their development and facilitate a definitive therapy through a postnatal tumor resection. However, a high percentage of pericardial tumors still go undiagnosed during prenatal examinations and are revealed as a cause of either intrauterine death at autopsy, as it was in our case, or postnatal cardiorespiratory failure.

✉ ***Adresa pro korespondenci:***
MUDr. Helena Skálová
Ústav patologie 1. LF UK a VFN
Studničkova 2, 128 00 Praha 2
tel: +420224968711, +420605502654
fax: +420224911715
e-mail: helenaskalova1@seznam.cz

CASE REPORT

A 35-year-old woman, 3-gravida underwent a routine ultrasound examination during the 23rd gestational week. It showed an absence of cardiac activity and severe oligohydramnion. No further pathological findings were found. An abortion, for *fetus mortuus*, was then induced.

During the autopsy, a male fetus was found with an extensive intrapericardial tumor, extending from the pericardium and expelling the heart into the dorsolateral part of the left hemithorax and the the left lung into the dorsal part of the left hemithorax. The right atrium was most affected by compression. The pericardial cavity and both hemithoraxes were filled with a sanguineous effusion, additionally, there was less marked ascites and diffuse subcutaneous swelling.

A soft hemorrhagic tumor (3.5 x 3 x 3 cm) was bounded on the ventral side by the right and left cardiac ventricles and, particularly, by the right atrium. It occupied approximately two thirds of the pericardial cavity (Fig. 1). It was fixed by a white stalk to the aortic stem, otherwise it moved freely (Fig. 2). Microscopically, the tumor was a partially hemorrhagic mature teratoma composed predominantly of mature mesoblastic structures, namely lung, glan-