CASE REPORT

MILD FETAL PERICARDIAL EFFUSION – CLINICAL SIGNIFICANCE

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ABSTRACT

Little amount of pericardial fluid may be considered normal. If thickness of pericardial fluid is more than this, it may be associated with structural anomalies or hydrops fetalis. In a fetus if there are no associated findings, mild pericardial effusion measuring two to seven mm in thickness should be considered normal.

KEY WORDS: Fetal pericardial effusion, pericardial fluid, fetal ultrasound.

INTRODUCTION

The pericardium consists of two sacs: the outer, fibrous pericardium and the inner, serous or visceral pericardium (epicardium). The proximal portions of the aorta and pulmonary artery are enclosed within the pericardial sac. The pericardium prevents friction between the heart and surrounding structures, acts as a mechanical and immunological barrier, and limits distention of the heart, which maintains a relatively fixed maximal heart volume. In normal hearts, these functions are achieved by the presence of a small amount of pericardial fluid (25-50 ml) produced by the visceral pericardium. Inflammation of the pericardial layers, with exudate owing to increased production of pericardial fluid, is usually caused by infection (viral causes are more common than bacterial), but can also have a noninfectious etiology. Dysraphism. Stomach bubble was visible and there were no features of esophageal atresia. Urinary bladder contained urine, ventricular system in brain was unremarkable and there was no mass effect or midline shift.

DISCUSSION

Pericardial effusion can have many possible causes, including infection such as viral, bacterial or tuberculous, inflammatory disorders, such as lupus and kidney failure with excessive blood levels of nitrogen. The seriousness of the condition depends on the primary cause and size of the effusion and whether it can be treated effectively. The test most commonly used to diagnose and evaluate fetal pericardial effusion is Echocardiogram. Large pericardial effusions may be drained through Ultrasound-guided pericardiocentesis, a safe and effective procedure to remove excess fluid from the pericardium.

Prenatal sonographic identification of a small rim of pericardial fluid, measuring less than 2 mm in thickness, is a normal finding. Pericardial fluid 2 mm or greater in thickness may be associated with structural anomalies or hydrops, but its clinical significance in the absence of these associated findings has not been evaluated. We assessed the outcome in fetuses with isolated pericardial effusions of at least 2 mm thick.

In a study on 52 fetuses with effusions ranging from 2 to 7 mm in thickness, we compared rates of preterm delivery, cesarean section, intrapartum and prenatal complications, Apgar scores, and length of neonatal hospital stay in these 52 cases to the overall hospital rates and found no statistically significant difference. We conclude that in the absence of other sonographic abnormalities, the finding of a fetal pericardial fluid collection 2 to 7 mm in thickness is not associated with adverse outcome. A study was carried out on forty-four fetuses with pericardial effusions identified by ultrasonographic
examinations. The clinical histories and courses of these patients were reviewed. At least eight different clinical features accompanied and were probably responsible for the pericardial effusions. The most common cause of a fetal pericardial effusion was heart failure (13 fetuses). Fetal renal cystic dysplasia with oligohydramnios and other anomalies was present in six fetuses. Four of this group had microscopic evidence of pericarditis on postmortem examination. Fetal pericardial effusions are always a manifestation of another disease process often presenting as fetal hydrops. Some pericardial effusions are transient. The etiologic origin of fetal pericardial effusions differs from that in the child or adult.

In our case umbilical cord was around neck of fetus, but this is not associated with fetal pericardial effusion, hence this additional finding was not causing effusion.

There is no risk of preterm delivery or intrauterine growth retardation in minimal pericardial effusion having thickness equal to 2 mm.

In the absence of other fetal abnormalities, the finding of a fetal pericardial fluid collection 2 mm in thickness is not associated with adverse outcome.

REFERENCES