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Fetal heart rate response to cordocentesis and pregnancy outcome: a prospective cohort.

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Abstract

OBJECTIVE: To evaluate fetal cardiac response to cordocentesis and whether such changes may affect pregnancy outcome. **METHODS:** 117 singleton pregnant women requiring percutaneous trans-abdominal cordocentesis were prospectively included. Fetal heart rate was continuously evaluated by ultrasound for 1 min after completion of cordocentesis and intermittently for 20 min more. Fetal and pregnancy outcomes were analyzed by grouping fetal cardiac response to cordocentesis into bradycardia, normal heart rate and tachycardia groups. **RESULTS:** Women included in the study were 30.5 \pm 4.0 years old and had a gestational age of 23.7 \pm 2.0 weeks. Fetal blood sample obtained by cordocentesis was 3.1 \pm 0.8 ml. Fetal heart rate before cordocentesis was 149 \pm 8 beats per minute (bpm), ranging from 130 to 169 bpm. Fetal heart rate post-cordocentesis was 145 \pm 30 bpm (from 32 to 175 bpm). The incidence of bradycardia and tachycardia was 10.3% (n=12) and 6.0% (n=7), respectively. Fetal heart rate returned to normal levels in all cases at \leq 5 minutes post-cordocentesis. In the tachycardia group, 6 cases had normal pregnancy outcome and one patient was lost to follow-up. In the bradycardia group, we observed two pregnancy terminations, one patient was lost to follow-up and nine were normal outcomes. In the group with normal heart rate (n=98), we observed one intrauterine fetal death, nine adverse fetal outcomes, eight pregnancy terminations and nine patients were lost to follow-up. **CONCLUSIONS:** Transient fetal tachycardia and bradycardia were uncommon and were not associated with adverse fetal or pregnancy outcomes.