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**Assessment of diastolic function after cardioversion of the fetal supraventricular tachycardia using pulsed Doppler and myocardial tissue Doppler.**

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**Objectives:** To evaluate fetal cardiac diastolic function after cardioversion of supraventricular tachycardia (SVT) using pulsed Doppler (PD) and myocardial tissue Doppler (MTD).

**Methods:** 56 fetuses with SVT were diagnosed in the referral centre for fetal cardiology. Sinus rhythm was obtained in 90% after transplacental treatment with digoxin and/or amiodarone. In 13 fetuses with normal heart anatomy and SVT successfully treated in utero a long-term observation of the PD and MTD was performed. We analyzed the E/A ratio in the conventional pulsed Doppler tricuspid flows and the Em/Am ratio in the myocardial tissue Doppler with the sample volume placed at the basal segment of the right ventricular free wall.

**Results:** In 6 fetuses with SVT after cardioversion the E/A ratio was above 1,0 from 2 to 10 days (mean  $4,3 \pm 3$  days). In 9 fetuses with SVT after cardioversion the Em/Am ratio was above 1,0 from 2 to 35 days (mean  $15 \pm 13$  days). In 7 cases the ratio of Em/Am > 1,0 lasted longer (mean  $9,5 \pm 13$  days) than the ratio of the E/A > 1,0. In the remaining 6 fetuses the normalization of Em/Am ratio took place simultaneously with the normalization of the E/A ratio.

**Conclusions:** After cardioversion of SVT the normalization of the E/A ratio occurred earlier than normalization of the Em/Am ratio. MTD may be more sensitive than atrioventricular spectral Doppler for the detection of transient ventricular diastolic dysfunction in fetuses after cardioversion of supraventricular tachycardia. This symptom may be associated with abrupt improvement in myocardial relaxation during sinus rhythm, pressure drop in end-diastolic phase and, consequently, increasing the pressure difference between the atria and ventricle.