

Intrapartum fetal ECG and diabetes.

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AIM: The objective of this study was to determine the prevalence and types of ST-segment changes of the fetal electrocardiogram (FECG) during labour in term fetuses born to mothers with diabetes mellitus (DM) or gestational diabetes.

METHODS: This was a retrospective case-control study involving populations from two multi centre trials: the Swedish Randomized Control Trial and the European Union ST-analysis (EU-STAN) trial. ST-segment changes were assessed in 104/309 cases and 207/468 controls from the Swedish and EU-STAN trials, respectively.

RESULTS: ST depression was present on the FECG in 22.1% of fetuses of mothers with DM compared to 12% of controls OR = 2.6, 95% CI = 1.4-4.7, $p = 0.002$ after adjusting for trial, birth weight, and nulliparity. ST elevation was present in 47.1% of DM patients and 41.2% of controls (OR = 1.4, 95% CI = 0.9-2.3, $p = 0.18$).

CONCLUSION: ST depression on the FECG was significantly more prevalent in the fetuses of mothers with DM, probably not indicating hypoxia but an altered ability of the myocardium to respond to the stress of labour. Further studies into the mechanism of fetal compromise during diabetic labour, are required.