

## Doppler umbilical artery and middle cerebral artery flowmetry in fetuses affected by foetal growth restriction (FGR) treated with transdermal nitroglycerin

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**Objective.** The objective was the evaluation of Doppler velocimetry of the umbilical artery and middle cerebral artery in fetuses affected by late foetal growth restriction (FGR) treated with transdermal nitroglycerin (Nitroderm®).

**Materials and Methods.** This is a retrospective study conducted at the University of Messina between 2019 and 2023, on 28 pregnant patients affected by late FGR, between 28 and 36 weeks of gestation.

Half a transdermal patch of 5 mg nitroglycerin was applied to the patient's back for a maximum of twelve hours/day for 10-14 days.

The foetal flowmetry study of the umbilical (AO) and middle cerebral artery (ACM) was performed at the admission time and re-evaluated every other day during treatment with Nitroderm TTS. The statistical analysis was performed consid-

ering the first and the last values of AO and ACM pulsatility index (PI).

**Results.** 17.85% of patients were affected by gestational hypertension, and 3.57% by gestational diabetes. Totally they underwent to 11.46 days  $\pm$  2.83 of treatment.

The mean value of AO PI at the admission was  $1.45 \pm 0.05$ , after treatment was  $1.35 \pm 0.04$ . This reduction was statistically significant ( $p < 0.05$ ). The mean value of ACM PI at the admission was  $1.62 \pm 0.06$ , after treatment was  $1.65 \pm 0.04$ .

Almost all patients delivered by caesarean section (89.28%); only 10.72% gave birth through spontaneous birth.

**Conclusions.** The treatment with transdermal nitroglycerin (Nitroderm®) is useful to reduce the umbilical Doppler flowmetry in fetuses affected by late FGR but it does not determine any improvement in ACM flowmetry.