Materials and methods: 103 patients were enrolled: 28 pregnancies after ART and 75 spontaneous low-risk pregnancies between 27 and 28 weeks of gestation. All patients were subjected to a maternal hemodynamic evaluation throughout USCOM (UltraSonic Cardiac Output Monitor) method.

Results: We found in the ART group higher total vascular resistance ($1354.4 \pm 221.9$ vs $899.3 \pm 142.1$ $p<0.001$) and PE/KE ratio ($42.4 \pm 18.4$ vs $20.2 \pm 8.8$ $p<0.0001$) values and lower stroke volume ($65.3 \pm 10.7$ vs $93.2 \pm 17.8$ $p<0.0001$) and cardiac output ($5.66 \pm 0.9$ vs $7.9 \pm 1.4$ $p<0.0001$) values, compared to spontaneous pregnancies (Fig.1).

In the ART group there were an increased incidence of fetal and maternal complications. The ROC curves identified the following cut off for pregnancy complications: TVR $>1168$ dyne-cm-sec$^{-5}$, $CO \leq 6.67$ L/min, $SV \leq 77.3$ ml, INO $\leq 1.6$ watt/m$^2$ and PKR $>26.42$ (Fig.2).

The univariate logistic regression analysis showed that all the parameters identified by means of the ROC curves are predictive of worse pregnancy outcome (Fig.3).

Conclusions: Pregnancies after assisted reproductive technology are associated with a worse pregnancy outcome. This risk seems to be linked to a maternal cardiovascular maladaptation.