Hemodynamic evaluation and obstetric outcomes in monochorionic diamniotic twin pregnancy

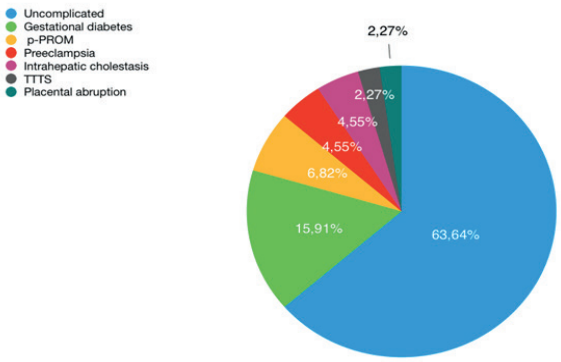
Grazia Maria **Tiralongo** *, Marta **Mancini**, Damiano **Lo Presti**, Daniele **Farsetti**, Ilaria **Pisani**, Giulia **Gagliardi**, Benedetta **Lupoli**, Barbara **Vasapollo**, Herbert **Valensise**

Department of Surgery, Section of Obstetrics and Gynaecology, Policlinico Casilino, University of Rome Tor Vergata, Rome, Italy.

DOI: 10.36129/jog.2022.S78

Objective. The aim of the study was to evaluate the trend of maternal hemodynamics in uncomplicated and complicated monochorionic diamniotic twin pregnancies (MCDA).
Materials and Methods. 44 monochorionic diamniotic twin pregnancies were enrolled (**Figure 1**) and were subjected to a non invasive hemodynamic evaluation with USCOM method. All the pregnant women were followed until delivery.
Results. Compared to singleton pregnancies, MCDA twin pregnancies showed a higher heart rate and cardiac output and lower total vascular resistance values ($p < 0.001$) in the second trimester. On the contrary, during the third trimester the cardiac output and inotropy index were lower in MCDA twin pregnancies ($p < 0.001$) compared to singleton pregnancies. No significant differences were found from the comparison between hemodynamic values in complicated and uncomplicated MCDA, during the three trimesters.
Conclusions. Our data underline that in MCDA twin pregnancies there is a marked haemodynamic adaptation to promote a correct utero-placental perfusion, expressed by increased cardiac output and heart rate.

Figure 1.



In the third trimester, however, the cardiac output and inotropy index decrease. These conditions might be due to a mechanism of progressive exhaustion of the maternal cardiovascular system that has been subjected, in the previous trimesters, to a greater effort than normal.