Maternal and perinatal outcomes in pregnant women with heart disease: an Italian multicentre observational study

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Objective. Maternal heart disease (HD) significantly impacts maternal and perinatal outcomes. The modified WHO classification (mWHO), suggested by the European Society of Cardiology for risk assessment, does not consider all HDs, complicating management.

The aim of the study is evaluating adverse outcomes in pregnancies with HD and identifying predictive variables.

Materials and Methods. A prospective multicentre observational study including women with known HD or cardiovascular events in pregnancy. HDs were assessed and compared according to the mWHO classification; two additional classes were created for HDs not included in the classification: class 0 (less severe) and X (more severe). Class 0 and I, as well as IIb, III, and IV were lumped together.

Results. Among 110 women with 112 pregnancies, maternal HD prevalence was 1.57% (95%CI 1.28-1.86%), with 19.6% women in class 0 and X. Class X had higher rates of foetuses with foetal growth restriction (FGR) overall and of operative deliveries for cardiologic reasons compared to class 0-I ($p < 0.005$). Elective caesareans for cardiologic reasons were more common in classes IIb-III-IV and X compared to class 0-1 ($p = 0.020$).

Neonatal outcomes varied significantly among HD types with cardiomyopathy associated with a higher frequency of APGAR < 7 at 5 minutes and more frequent NICU admissions than congenital, arrhythmic, or valvular diseases ($p < 0.01$).

Conclusions. We observed higher rates of FGR, operative deliveries and elective caesareans due to cardiologic reasons in class X and neonatal outcome variations among HD types. Our findings emphasize the importance of individualized, multidisciplinary management.