

Nepriaznivé pôrodnické a novorodenecké výsledky gravidít u vysoko rizikových žien s ochorením srdca

Východisko: Aktuálne guidelines Európskej kardiologickej spoločnosti pre manažment ochorení srdca v gravidite odporúčajú na hodnotenie maternálneho kardiovaskulárneho rizika modifikovanú klasifikáciu World Health Organization (mWHO). Naproti tomu neexistujú validované modely na predikciu novorodeneckého a pôrodnického rizika u týchto žien.

Ciele: Porovnať novorodenecké a pôrodnické výsledky gravidít medzi dvoma skupinami matiek s ochorením srdca: ženy s vysokým až extrémne vysokým maternálnym rizikom (mWHO III-IV; skupina 1) a ženy s nízkym až intermediárnym maternálnym rizikom (mWHO < III; skupina 2).

Metodika: Zaradili sme 48 následných žien s klinicky významnými vrodenými chybami srdca, chlopňovými chybami, kardiomyopatiami, ochoreniami aorty alebo poruchami rytmu. Hodnotili sme výsledky gravidity v skupine 1 (19 gravidít u 17 žien, 20 živorodených novorodencov) a v skupine 2 (35 gravidít u 31 žien, 34 živorodených novorodencov).

Výsledky: V skupine 1 bola vyššia prevalencia novorodencov s nízkou pôrodnou hmotnosťou (50.0% vs 2.9%, $p < 0.001$), nižšia prevalencia zreých novorodencov (50.0% vs 94.1%, $p < 0.01$) a vyššia prevalencia predčasného pôrodu (45.0% vs 5.9%, $p < 0.01$). Novorodenci matiek skupiny 1 mali signifikantne nižšiu pôrodnú hmotnosť (2442 ± 753 g vs 3285 ± 457 g, $p < 0.0001$). Pacientky skupiny 1 mali významne skorší pôrod ako v skupine 2 (35.7 ± 3.1 týždňov vs 38.5 ± 1.3 týždňov, $p < 0.00001$). Mali dlhšiu dobu hospitalizácie (13.0 ± 14.0 dní vs 5.0 ± 2.3 dní, $p < 0.001$), vyššiu prevalenciu pôrodov cisárskym rezom (100% vs 63.6%, $p < 0.01$) a vyššie odhadované krvné straty pri operačnom pôrode (572 ± 156 ml vs 474 ± 111 ml, $p < 0.05$). Zistili sme signifikantne vyššie riziko novorodeneckých a pôrodnických komplikácií pri graviditách v triedach mWHO III-IV ako pri graviditách v triedach mWHO < III: pôrod cisárskym rezom (odds ratio [OR] 22.7, 95% konfidenčný interval [CI] 1.3-409.0, $p < 0.05$), predčasný pôrod (OR 13.1, 95% CI 2.4-70.1, $p < 0.01$), nízka pôrodná hmotnosť (OR 33.0, 95% CI 3.8-290.2, $p < 0.01$), nezrelosť novorodenca (OR 16.0, 95% CI 3.0-85.5, $p < 0.01$).

Záver: Gravidita u žien s vysokým až extrémne vysokým maternálnym rizikom (mWHO III-IV) bola zaťažená vysokým rizikom novorodeneckých a pôrodnických komplikácií. Zistili sme signifikantne horšie pôrodnické a novorodenecké výsledky u gravidít v triedach mWHO III-IV ako v triedach mWHO < III.

Kľúčové slová: gravidita, klasifikácia mWHO, novorodenecké výsledky, ochorenie srdca, pôrodnické výsledky.

The latest ESC guidelines on the management of cardiovascular diseases during pregnancy recommend estimating maternal cardiovascular risk according to the modified World Health Organization (mWHO) classification (1). Though predictors of offspring complications have been identified, there are no validated models for predicting neonatal and obstetric risk.

Methods

This is a non-interventional observational retrospective monocentric study. We included consecutive women with a history of clinically significant heart disease who gave birth between January 2011 and May 2022. A total of 48 women with congenital heart diseases, valvular heart diseases, cardiomyopathies, aortic diseases, or heart rhythm disorders were recruited. We did not include patients with arterial hypertension, venous thromboembolism, or patients with mild and clinically insignificant heart diseases as judged by the investigators if they did not have the aforementioned heart disease. There were no other exclusion criteria used for inclusion in the study.

Patients were classified into maternal risk classes according to the mWHO classification (1). These were classes mWHO I, mWHO II, mWHO II-III, mWHO III, and mWHO IV. If it was not possible to exactly classify the mother and she did not meet any of the mWHO III or IV criteria, we classified her as mWHO < III.

We aimed to compare the neonatal, obstetric, and maternal outcomes of pregnancy between two groups of mothers with heart disease:

group 1 with significant to extremely high risk (mWHO III, mWHO IV) and group 2 with low to intermediate risk (mWHO I, mWHO II, mWHO II-III, mWHO < III). There were 17 mothers in group 1 and 31 mothers in group 2.

Preterm delivery was defined as birth before the end of the 37th week of gestational age. We considered low birth weight to be < 2500 g. We evaluated neonatal mortality during the first 28 completed days of life. Fenton growth charts were used to assess growth.

Statistical analysis

Categorical data are presented as frequencies and percentages. Continuous data are presented as mean and standard deviation if normally distributed and median with interquartile range if not normally distributed. The normality of the distribution of continuous variables was tested with the Kolmogorov-Smirnov test of normality. The frequencies of categorical data were compared by Pearson's chi-square test. The Fisher exact test was employed when sample sizes were small. The differences in mean values of continuous variables were evaluated using a T-test in the case of a normal distribution. In the absence of a normal distribution, we compared the difference in the means of continuous variables using the Mann-Whitney U test. We considered the differences to be statistically significant at a significance level of $p < 0.05$. All statistical calculations were carried out using SPSS Statistics 20.0 software (IBM Corp. Released 2011. IBM SPSS Statistics for Windows, Version 20.0. Armonk, NY: IBM Corp.).