

The effect of a prophylaxis protocol with aspirin on the prevalence and perinatal repercussions of preeclampsia

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Objective

To evaluate the effect of the preeclampsia (PE) prophylaxis protocol on the prevalence of PE and its main complications at Maternity School of Federal University of Rio de Janeiro, (ME/UFRJ) after protocol implementation, based on clinical criteria, that recommend the use of low dose aspirin to high-risk patients.

Methods

PE prevalence according to gestational age (GA), and the prevalence ratio (PR) between PE and prematurity, small for gestational age (SGA) and fetal death were calculated in all singleton pregnant women over 22 weeks of gestation hospitalized for delivery at ME/UFRJ, from January 1, 2015 to December 31, 2016. The chi-square test was applied to verify potential PE associations with prematurity, SGA and fetal death and considered significant when the p-value (p) was <0.05 . PE prevalence was also stratified according to whether or not prenatal care was performed at ME/UFRJ, as this institution receives for delivery both pregnant women who underwent prenatal care (PN) at the institution as well as those from primary health care centers, which have ME/UFRJ as a reference maternity hospital. We assume that only pregnant women assisted in local ME/UFRJ prenatal care were exposed to the PE prophylaxis protocol. This study was approved by the institution's Ethics Committee, under no. 3.759.938.

Results

PE occurred in 373 of a total of 3468 investigated cases (10.75%), where PE <34 weeks was of 0.89%; PE <37 weeks was of 2.79% and PE > 37 weeks was of 7.95%. A total of 413 (11.9%) prematurity cases, 320 SGA (9.22%) and 50 fetal deaths (1.44%) occurred. In the PE group, 97 premature newborns (PR 0.90) and 51 SGA (PR 1.16) were born, and two fetal deaths occurred (PR 7.46). Concerning PE <37 weeks, 27 SGA cases (PR 1.42) and two fetal deaths (PR 2.62) were observed. Regarding PE > 37 weeks, 24 SGA (PR 1.09) were born, and no fetal deaths were observed. When stratifying the study population according to PN location, the prevalence of PE among patients from ME/UFRJ was of 14.75% (95% CI: 13.06-16.61) and among external PN cases, of 7.59% (95% CI: 6.49-8.86), p-value <0.001 , which is statistically different.

Conclusion

PE was significantly associated with SGA newborns, especially premature PE. The prescription of aspirin at 100mg/day for PE prophylaxis based only on clinical risk factors, as recommended by the WHO or NICE, was not effective in reducing the prevalence of PE, raising questions about the appropriate aspirin dose and adequate screening for PE during the first trimester of pregnancy. We understand that this does not represent a complete lack of protective effect of the prophylaxis protocol, since the use of aspirin reduces, but does not eliminate, the risk of PE. The results of this study led to the review of PE screening and prophylaxis protocol at ME/UFRJ, as well as care regarding adherence to the aspirin prescription.