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Compartment Syndrome and Perfusion Pressure Level in Women with Preeclampsia of Varying Severity After Cesarean Section

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Abstract

According to the classification of intraabdominal hypertension (ISH) (World Congress on the Abdominal Compartment Syndrome, 20006.), pregnancy is included in the list of conditions accompanied by increased intra-abdominal pressure (IAP).

Keywords: Cesarean; Anesthesia; Fetal

Introduction

At the same time, one of the possible mechanisms for the formation of preeclampsia (PE) may be an increase in IBD with compression of the kidneys, mesenteric vessels, pelvic vessels, uteroplacental complex and liver [1] and Marshalov DA established the dependence of high IAP and the frequency of obstetric and perinatal complications At the same time [2], there is no data on the dependence of high IAP and perfusion pressure (PD) of abdominal organs in women with preeclampsia, which is of great importance in restoring the function of life-supporting organs. The aim of the study was to determine IBD and APD in women with preeclampsia after cesarean section and to establish the dependence of PD on the level of IBD.

Material and Methods

The study was conducted in 56 maternity women after cesarean section. The average age of the maternity women was 24 ± 2.7 years. There were 19 repeat births (33.9%), 37 first-time births (66.1%). The indication for surgery in 20 (35.7%) cases was preeclampsia of a pronounced degree, in other cases progressive intrauterine fetal hypoxia on the background of preeclampsia of an unexpressed degree. A 6 women were delivered before 32 weeks of pregnancy, 32 from 34 to 36 weeks and 18 with full-term pregnancy. Antenatal fetal death occurred in 2 cases, and fetal development delay of varying severity was noted in 16 cases. In 18 women with severe preeclampsia, cesarean section was performed under endotracheal anaesthesia, in the remaining 38 under spinal anesthesia. The IBD was determined by the method described by Kulikov LK with a mathematical recalculation of the water column pressure indicators on the mercury column indicators. PD was calculated according to the formula: differences in average blood pressure and IAP in millimeters of mercury [3].

Results

IBD ranged from 18.4 to 47.6 mmHg, averaging 33.6 ± 1.7 mmHg, and PD from 56.6 to 97.6 mmHg. Averaging 72.6 ± 2.3 mmHg, while only in 12 (21.4%) observations (group 1) it was less than 25 mmHg and corresponded to the 2nd degree of intra-abdominal hypertension. In 26 (46.4%) women (group 2), IBD was more than 25 mmHg, at least 40 mmHg, and in 18 (32.2%)-3 group, it exceeded 40 mmHg. In the 1st group of women, the average PD was equal to 82.3 ± 2.7 mmHg, in the 2nd -76.5 ± 1.8 mmHg and in the 3rd 70 ± 2.2 mmHg, the PD indicators in the studied groups significantly differed (P≤0.001). It is noted that with an increase in the DB, there is a significant decrease in the P indicator, but without lowering to the minimum critical level equal to 50 mmHg.

Conclusion

Thus, in women with preeclampsia delivered by caesarean section, high IAP was noted in the postoperative period. An increase in IAP is always accompanied by a decrease in PD, which, at the same time, did not reach the minimum critical level, which indicated the huge reserve capabilities of the body even with such a severe pathology as preeclampsia.

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