

Reducing The Incidence Of Postoperative Cognitive Dysfunction In Women Undergoing Cesarean Section During Spinal Anesthesia And Drug Sedation With Desmedetomidine

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Postoperative cognitive dysfunction syndrome (POCD) refers to disorders of higher mental functions that can develop in the postoperative period and are caused by surgery and anesthesia, as defined by L.S. Rasmussen is a cognitive disorder that develops in the early and persists in the late postoperative periods, clinically manifested by memory impairment, difficulty concentrating (concentrating) attention and disturbances of other higher cortical functions (thinking, speech, etc.), confirmed by neuropsychological testing[1].

The goal is to reduce the risk of developing POCD by optimizing medical sedation during cesarean section.

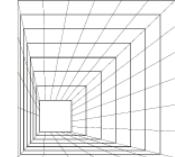
Material and methods. To fulfill the assigned tasks on the basis of the multidisciplinary clinic of SamDTU in the period 2023 to 2024, 38 women with a gestation period of 37-40 weeks were examined and delivered by planned cesarean section, which included: full-term pregnancy, uterine scar after cesarean section, congenital or acquired pathology of the pelvic bones, preeclampsia, and high myopia.

All women were divided into 2 groups. In group I ($n = 15$), sedation was performed with sodium hydroxybutyrate 40 mg/kg. Puncture of the subarachnoid space was performed at the level LII–LIV using Pencil-Point G 25–26 needles in a lateral position. A hyperbaric solution of 0.5% bupivacaine solution with a solution density of 1.026 was slowly (over 2 min) injected. The dose of anesthetic was calculated in accordance with the proposed dosage [3]. In group II ($n = 15$), starting from the moment of premedication, 0.5 mcg/kg Quanadex (Yuria Pharm) was administered intravenously for 15 minutes, the maintenance dose was 0.5–0.8 mcg/kg/h per throughout the operation until its completion.

Statistical processing was performed in the “Data Analysis”, “Descriptive Statistics” sections using the Microsoft Excel 2013 software package with a statistical processing application package. The significance criterion was the value of the error probability indicator, or the probability of accepting an erroneous hypothesis (p) - no more than 5% ($p \leq 0.05$).

Research results and discussion.

As our studies showed, SA was highly effective in all 38 women. The level of distribution of complete sensory-motor block corresponded to Th4-S5 dermatomes. During the entire operation, including during its most traumatic stages, the patients did not react and did not complain. Signs of respiratory depression were observed in group I in 5 women in labor. SpO2 was 90-94%. In the main group, no signs of respiratory depression were observed. Hemodynamic stability was maintained. However, when assessing changes in hemodynamics in the 1st group, in contrast to the 2nd group of women, an increase in heart rate (HR) was found from 88.2 ± 2.3 beats/min to 94.8 ± 2.5 beats/min, an increase in SBP at all stages of observation, a slight decrease in cardiac index (CI) and an increase in peripheral vascular resistance. Activation of the sympathetic link of regulation was also greatest in the 2nd group of women when using Quanadex, while the tension index (TI) was 398.2 ± 9.1 c.u. at the most



traumatic stage of the operation, however, a low level of total cortisol (TC) of 120.8 ± 3.1 nmol/l was noted in women.

Conclusions: The use of 0.8 mcg/kg Quanadex as a sedative against the background of SA ensures hemodynamic stability throughout the operation and is quite acceptable for anesthesiological management of abdominal delivery.

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