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ENCHANCING ANESTHESIA OUTCOMES: THE ROLE OF DEXMEMEDETOMIDINE AS AN ADJUVANT TO SUBARACHNOID ANESTHESIA

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Relevance. Anesthesia plays a critical role in modern surgical practice, ensuring patient comfort, pain management, and surgical success. Dexmedetomidine is a highly selective alpha-2 adrenergic receptor agonist, has analgesic and sedative effects and can be used for subarachnoid anesthesia, favorably affecting the course of the perioperative period.

Aim: to investigate the impact of dexmedetomidine on patient satisfaction and the course of spinal anesthesia in gynecological patients.

Materials and methods. Design of the study was prospective randomized open controlled trial conducted on 40 women with diagnosis «Pelvic organ prolapse according to the POP-Q system, cystocele, urethral incontinence», who underwent surgery from January 1, 2023, to December 30, 2023, at the 5th City Clinical Hospital and the 6th City Clinical Hospital in Minsk. All patients were divided into 2 groups: Group A (control) is included 20 women who underwent surgery under spinal anesthesia and Group B is included women, who underwent surgery under spinal anesthesia with dexmedetomidine. Criteria for inclusion in research were Patient's consent, ASA 2 according to ASA physical status classification system (Score ASA). The operation was Anterior vaginal wall prolapse with transposition of the bladder, reinforcement of the pelvic floor with a mesh transplant. There were 4 stages of research: I stage - 10-15 minutes before anesthesia; II stage - after spinal anesthesia; III stage - 15 minutes from the beginning of the operation; IV stage - end of the operation, putting the last sutures on the skin. The object of the study was parameters of hemodynamic (Systolic, Diastolic and Mean Blood Pressure, Heart rate) and satisfaction with anesthesia (scale «Generalized Anxiety Disorder 7», Visual analog scale). Patients were randomly assigned using simple randomization method with the help of a computer-generated random number program.

Results and their discussion. The average age in group A was 60.5±5.6 years, and in group B 69.1±4.9 years. The duration of anesthesia in both groups averaged 90 minutes ($p \geq 0,05$). Spinal anaesthesia was performed according to the standard procedure in both groups using a hyperbaric solution of bupivocaine 0.5% at a dose of 0.2 mg/kg in combination with the adjuvant morphine spinal at a dose of 100 mcg. Dexmedetomidine was used in group B: bolus 1 mcg/kg over 10 minutes followed by titration at 0.2-0.3 mcg/kg/hour. Hemodynamics in both groups remained stable throughout the operation, $p \geq 0,05$. Respiratory depression was not observed in group B The pain level during the first day after VAS surgery in group B was significantly lower than in group A and was in the range of 0.5-1.1 in group B and 1.3-2.4 in group A, $p \leq 0,05$. All participants of the group noted that the most pleasant moment was associated with the catheterization of peripheral veins and the introduction of anesthesia (n=20). At the end of the operation, patients felt "full of strength" and rested, they did not remember the beginning and stages of the operation. In the postoperative period, after 6-8 hours, additional NSAID anesthesia (paracetamol, dexketoprofen) was required in group B (n=16), while in group A additional NSAID anesthesia (paracetamol, dexketoprofen) in combination with gabapentin in the postoperative period after 2-3 hours (n=14), $p \geq 0,05$.

Conclusion. The use of dexmedetomidine during spinal anesthesia at a dose of 0.2-0.3 mcg/kg/hour allows for stable hemodynamics during surgery, does not cause respiratory depression and provides a favorable emotional background for the patient, as well as reduces the level of pain in the postoperative period.