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The efficacy of Infulgan in perioperative pain management in oncology

Annually, approximately 170,000 people in Ukraine are newly diagnosed with malignancies. Subsequently, 32.5% of them are subjected to combined or multimodal therapy, and 35.3% of patients receive only surgical treatment, which requires postoperative pain relief. Special aspects about patients with cancer are that in most cases they are elderly people, who have a range of chronic conditions, as well as that the underlying disease and chemotherapy and radiation therapy, given before surgery (neoadjuvant), cause homeostatic disorders, requiring a careful approach to the choice of pain management methods in the postoperative period. postoperative pain relief remains an important issue. Currently, about one third of patients after surgery, despite the given analgesia, indicate pain of varying severity. However, ongoing replenishment of the analgesics arsenal with new agents still does not resolve the problem.

Obviously, there is a need in the strategies of postoperative pain management that take into account the pathophysiology of pain, the general condition of the patient, characteristics of the pharmacological profile of drugs, the possibility of combining different methods in order to improve the quality of the postoperative period course.

At present, this approach has been implemented in the concept of multimodal analgesia, involving a combination of various means and methods of anesthesia. By influencing the various links in nociception, it is feasible to achieve a more pronounced analgesic effect with lower doses of the administered agents, and, consequently, to reduce the severity of their adverse effects.

Paracetamol is a medicinal product with proven efficacy and safety, which is recommended for the application by international guidelines, such as the Acute Pain Management: Scientific Evidence (2005), Postoperative Pain Management — Good Clinical Practice (2005).

With Infulgan (YURiA-PHARM) becoming commercially available in Ukraine, it is now possible to use the infusion form of paracetamol as a component of multimodal analgesia after abdominal surgery.

The aim of the study was to evaluate the efficacy of paracetamol as a solution for intravenous infusion as a component of postoperative pain relief after abdominal surgeries in oncology.

Materials and methods of the research

The pain was assessed during the first three days after surgical intervensions in 30 patients undergoing abdominal surgery, belonging to the highly traumatic group (such as gastrectomy, distal subtotal gastrectomy, lower anterior resection and abdominoperineal resection of the rectum).

Mean age of the patients was 62 years. All subjects belonged to the ASA category of risk III. The interventions were performed under general anaesthesia combined with artificial ventilation (AV) by endotracheal induction using propofol or sodium thiopental, and maintaining low-flow sevoflurane anaesthesia combined with fentanyl and non-depolarizing neuromuscular blocking agents. Patients with severe nutritional deficiency, hepatic and/or renal insufficiency, as well as drug addiction of chronic alcoholism were excluded from the study.

The patients were divided into 2 groups.

Forty minutes before surgery, patients in both groups received conventional preanesthetic medication, which included 1 mL of Promedol, 2% solution, and 1 mL of Dimedrol, 1% solution.

In Group I, for the entire period of observation, patients received after surgery a non-steroidal anti-inflammatory drug, NSAID, (100 mg ketoprofen i/m, twice daily) in combination with prolonged epidural analgesia using bupivacaine 2.5 mg/mL at a rate of 4 mL/h, and Promedol, 2% solution,

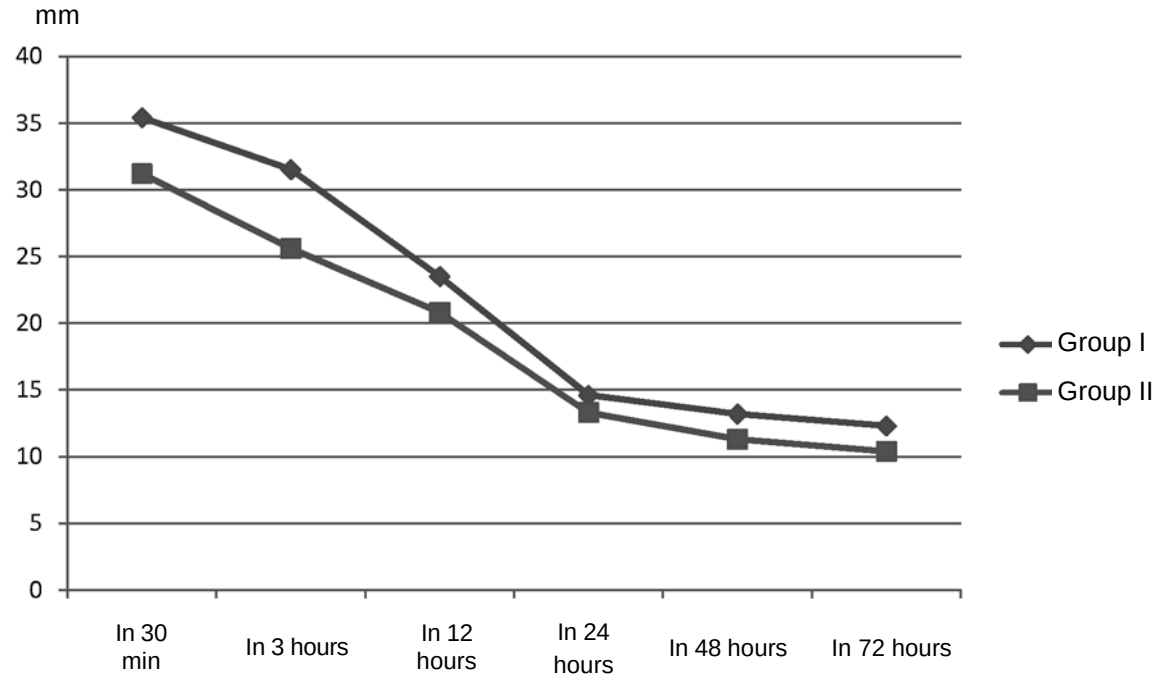

Figure. Pain intensity by VAS

Table 1. Assessment of pain intensity by VAS (mm)

Time of evaluation	Group	
	I	II
in 30 min	35.4	31.2
in 3 hours	31.5	25.6
in 12 hours	23.5	20.8
in 24 hours	14.6	13.3
in 48 hours	13.2	11.3
in 72 hours	12.3	10.4

Table 2. Evaluation of the injection number, activation time, and hospital stay of the patients

Assessed parameter	Group	
	I	II
The number of injections of opioid pain medications	7.0	5.4
Activation of patients, h	48±4	36±4
Hospital stay, day	12±2	12±2

1 mL i.m. (1-2 injections), with subsequent transfer to tramadol, 5% solution, 2 mL (up to two days).

In addition to the regime of postoperative analgesia in Group I, patients in Group II were administered paracetamol (1 g in a 15-minute infusion 4 times a day); the first infusion of paracetamol was given 30 minutes before the end of the surgery.

The observations were carried out for 3 days, recording the assessments of pain intensity using a Visual Analogue Scale (VAS) made by patients in 30 minutes, 3 hours, 12, 24, 48 and 72 hours after the surgery (Table 1, Figure).

The use of narcotic analgesics in the postoperative period, the period from the end of surgery to raising the patient in the bed, and duration of hospital stay were evaluated (Table 2).

Results and discussion

No adverse effects of the paracetamol infusion were reported during the study.

The patients in Group II were activated earlier than those in Group I (Table 2).

Duration of hospital stay in both groups was not significantly different (Table 2).

Conclusions

Multimodal analgesia, including paracetamol infusion, provided adequate pain management during postoperative period in patients with cancer after abdominal surgery.

The application of preventive multimodal analgesia using paracetamol infusion allowed to titrate down the concurrent opioid analgesics, and contributed to acceleration of the rehabilitation process after abdominal cancer surgery.

Paracetamol is safe for use in cancer patients.

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