MULTIMODAL ANALGESIA AS AN EFFECTIVE COMPONENT IN TREATMENT PROGRAM FOR ACUTE PANCREATITIS

The aim — to study the multimodal analgesia clinical efficacy in complex surgical treatment of patients with acute pancreatitis.

Materials and methods. The treatment results of 48 patients with acute pancreatitis who were treated at the city pancreatologic center in General surgery clinic have been analysed. Patients were aged from 46 to 58 years (mean age — (54.3 ± 5.2) years). Eleven (23 %) women and thirty-seven (77 %) men took part in the research. Patients were randomly divided into two groups: in the main group (n = 25) the treatment program, in addition to basic infusion therapy, a multimodal analgesia was provided; in the comparison group (n = 23) anesthesia was performed by analgesic non-opioid drugs appointment. Multimodal analgesia included coapplication of analgesics, *Infulgan* antipyretics (10 mg paracetamol contains in 1 ml) and NSAID *Diclobru* (diclofenacum).

Results and discussion. In the study group, in contrast to the comparison group a significant tendency to a pain decreased by its visual analog scale assessment and in the cortisol serum level was shown. The absence of significant positive analgesia result suggested the severe acute pancreatitis presence.

Conclusions. The proposed multimodal anesthesia method should be used in clinical practice due to its effectiveness and the modern FastTrask surgery principle relevance.

Key words: multimodal analgesia, acute pancreatitis, *Infulgan*.

Acute pancreatitis (AP) is one of the most serious, prognostically unfavourable and often threatening acute diseases of the abdominal cavity. The problem of treatment of patients with AP is a socio-medical [1, 2, 10]. This is due to the fact that the number of patients with this disease is increasing with a predominance of males of working age, and treatment, particularly surgical, is associated with long term hospitalization, considerable costs, high frequency of adverse events, often - resulting in a disability [5, 7, 9, 13]. Widely recognized approach is based on the comprehensive therapy with a combination of operational and non-interventional therapeutic techniques namely with domination of multidisciplinary principle [6, 8, 11, 14]. Reduction or alleviation of pain syndrome (PS) is essential in medical treatment of AP and its complications [2, 7, 9, 12]. This is due to the fact that the significant PS inherent in AP not only adversely affects the patient's subjective esthesia, but also is an important part of pathogenetic mechanisms of development and progression of the disease [2, 4, 6, 8, 15]. Therefore, the development of new approaches to the alleviation of PS by combining medications of different pharmacodynamic effects according to the principle of multimodal pain control is of scientific and practical interest.

The aim of research is to study the clinical effectiveness of multimodal analgesia in comprehensive surgical treatment of patients with acute pancreatitis.

MATERIALS AND METHODS

The results of treatment of 48 patients with AP, who were receiving medical treatment...
at the specialized city centre of pancreatology based on
the clinic of general surgery of Danylo Galitsky Lviv
National Medical University has been analysed. The
patients’ age - from 46 to 58 years (mean age - (54.3 ±
5.2) years). There were 11 (23 %) women and 37 (77 %)
men.

Diagnosis of the disease was made according to the
results of the clinical, laboratory-biochemical,
radiological (ultrasonography, computerised
tomography, roentgenography) and instrumental
(fibro gastroduodenoscopy, videolaparoscopy) methods
of study. Duration of the disease on admission ranged
from 2 to 4 days, in most patients (35; 73%) - 2 days.
Rapid progression of the disease was detected in 17
(35%) cases.

AP of ethanol genesis was found in 35 (73%) patients,
of biliary one - in 13 (27%). According to the
classification (Atlanta, 2012) [6], the mild course of the
disease was ascertained in 26 (54%) patients, moderate -
in 15 (31%) and severe - in 7 (15%) patients.

All patients were divided into two groups in random
manner. 25 patients whose medical program, in addition
to basic medication infusion therapy, included multimodal
analgesia by intravenous administration of medicinal product from the group of analgesics-
antipyretics - "Infulgan" (paracetamol) in combination
with NSAIDs "Diclobru" (diclofenac), has been enrolled
in the main group. Comparison group included 23
patients, whose pain control was provided by the
prescription of non-opioid analgesics.

Elaborated method of multimodal analgesia
provided for the use of "Infulgan" (paracetamol 1000
mg/100 ml) in combination with the "Diclobru"
(diclofenac sodium 3.0 ml/75 mg) according to the
scheme: during the first hours after hospitalization,
intravenous "Infulgan" was administered in a dose of
100 ml (1000 mg) three times daily (4 hours apart) with
a single intramuscular prescription of "Diclobru" in a
dose of 3.0 ml (75 mg). The "Infulgan" has been
selected as a component of a multimodal analgesia,
since according to the recommendations of the
European Association of Regional Anaesthesia (ESRA)
paracetamol, which is the main active ingredient of the
drug - an integral component of mild, moderate and
severe PS reduction [5, 13 ]. On the second day of
treatment, dose of "Infulgan" was reduced (1000
mg/100 ml 2 times daily intravenously).

A comprehensive intensive conservative infusion-
medical therapy had a positive effect in 22 (88 %)
patients of the main group and 18 (78%) - of
comparison group, and led to dissipation of pancreatic
infiltrate with its abortive development.

Due to the progression of AP and development of
local purulent necrotic complications, such as
parapan creatitis/paracolitis,
Dynamics of pain intensity according to a visual analogue scale, scores per hour. Statistically significant reduction of PS has been ascertained only after 3 hours in case of moderate AP. PS was not reversed in patients with severe AP after 3 h, which required an additional use of opium analgesics or peridural anesthesia. The dynamic of intensity reduction of PS, using the proposed method of analgesia, reflected the severity of the clinical course of the disease, which can be used as one of the criteria for assessment of the severity and prognosis of AP.

The analysis of blood cortisol level dynamics (Table 3) showed tendency to cortisol reduction at high primary parameter in the main group, since the second day, and its normalization - the seventh day, while there was credible reduction of the concentration of said hormone in the comparison group only on the fourth day.

Thus, the use of multimodal analgesia according to elaborated scheme has contributed to the alleviation of PS in patients with AP according to clinical data and the level of stress hormone cortisol in the blood. The lack of reliable reduction of PS dynamics can be considered as an indirect criterion of severe and prognostically adverse course of the disease.

The principle of multimodal analgesia proposed by H. Kehlet [4], the essence of which is the concomitant use of drugs of different pharmacological action, contributing to amplification of pain relief, has opened new opportunities in dealing with the alleviation of PS in clinical medicine, particularly in the abdominal surgery [5, 11 14].

Combination of two drugs - "Infulgan" and "Diclobru" had a positive effect based on their synergistic action, which gives reason to recommend them for use in clinical practice.

CONCLUSIONS

Multimodal analgesia, which provides for concomitant use of "Infulgan" and NSAIDs - is effective and pathogenetically grounded component of comprehensive surgical treatment of patients with acute pancreatitis.

The degree of pain intensity and dynamics of its reduction using the proposed method of analgesia may be an indirect criterion for assessment of the severity and prognosis of acute pancreatitis.
References