

**UNIVERSITY OF MEDICINE AND PHARMACY
CRAIOVA**

DOCTORAL SCHOOL

DOCTORAL DISSERTATION

- Summary -

***METHODS OF ANALGESIA AND SEDATION
IN THE POSTOPERATIVE PERIOD***

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CRAIOVA 2013

Keywords: pain, analgesia, VAS scale, Ramsay score, surgery

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CURRENT STATE OF KNOWLEDGE

"Pain is an unpleasant sensory and emotional experience (bad) associated with actual or potential tissue damage real or a description in terms that relate to such damage" [1].

Pain can be classified:

- By duration: acute, chronic, recurrent;
- Clinical: Nociceptive pain, neuropathic, psychogenic.

Acute pain is an important warning system to protect the body, it allows the diagnosis and removal of noxious stimuli. Intense acute pain becomes harmful triggers shock, prolonged acute pain, which involves functional disorders (muscle atrophy, joint disorders, nerve), which can cause chronic pain disorders, body tending to restore homeostasis systems using neural, hormonal, Behavioral etc.

Monitoring analgesia

Pain assessment is performed by one-dimensional and multidimensional methods. Usually one-dimensional methods is assessed a single dimension of pain and patient data are obtained by autorelatarea on pain intensity that perceives. These tools are useful for evaluating one-dimensional acute pain, particularly acute postoperative pain assessment [3].

Multidimensional methods are complex instruments and are recommended to assess persistent pain or complex. Include descriptions revealed feelings of pain, images, experiences, information on the quality, intensity, spatial and temporal dimensions of pain. Methods used to measure the self-assessment of pain include direct questions, descriptive adjectives, autogradare scales, digital scales, non-verbal methods [2]. Include substances used analgesic medication for pain of various causes, and can classify them into two broad categories:

- Opioid analgesics;
- Analgeto-antipireto-inflammatory: AAA (nonopioide).

Monitoring sedation

Assessment of sedation is important and after opioid use because they, in addition to analgesia and sedation causes.

There are several scales of sedation, but the scale used is the scale Ramsay and Richmond (ASSR), the other scales are:

- Riker Scale (SAS);
- Motor Assessment Scale (MAAS);
- Vancouver and Calmness Scale (Vics);
- Comfort scale.

Sedation can be defined as the use of pharmacological agents to produce sufficient depression of consciousness, which results in a state of drowsiness and anixioliză without loss of verbal communication [4].

There is a difference between sedatives and anesthetics due to their management.

The sedative effect can be used benzodiazepines, neuroleptics and agents alpha 2 adrenergic agonists and inhaled agents intravenous anesthetic agents can cause sedative effects at doses subanestezice [4].

Adequate control of postoperative pain plays an important role in perioperative management, taking into account the fact that, beyond fear for the outcome of surgery, the main concern of patients is related to the intensity of postoperative pain, which is often perceived as the most unpleasant event the surgical act. Thus the main objective of postoperative therapy is to maintain quality of life and rapid postoperative recovery [5].

Pain control is achieved but often at the cost of increased consumption of opioids, therefore currently raise new strategies perioperative (multimodal analgesia, preemptive analgesia, analgesia or patient-controlled locoregional etc.), The aim being to improve the quality of analgesia postoperative opioid consumption and thus reduce the adverse effects associated with them.

CONTRIBUTIONS

STUDY I

METHODS POSTOPERATIVE ANALGESIA IN SURGERY ONE DAY. REGIONAL BLOCK BLOCK ASSOCIATION WITH DORSAL PENIS

Purpose of the study

Interventions included surgery may one day be defined as surgery that does not produce a large bleeding, which produce high postoperative pain and have a duration of 60 minutes. This type of surgery is a cost / benefit good, involving small hospital resources, enables rapid integration in society, is a safe and effective practice, but also minimize the risk of nosocomial infections [6].

The aim of this analysis analgesic efficacy after surgery (circumcision). There are 5 aspects of specific objectives:

- Evaluating pain, having, based analgesia, dorsal penile nerve block;
- Evaluating pain, depending on administered NSAIDs;
- Assessment of pain, patient story comparing and assessing health professionals;
- Additional administration of analgesics;
- Resumption of full hydration and nutrition.

The study was conducted on a total of 50 patients, male, aged between 10 and 25 years, for a period of 8 months.

Results and Discussion

Sources pain were reported as either surgical wound (89%) or nursing maneuvers (7.9%) or even be invasive procedure (3.1%), despite making previously dorsal penile nerve block.

Comparing static and dynamic VAS score in patients who received Nefopam hydrochloride compared to those who received dexketoprofen, VAS first category was

lower than in the second category of analgesics received, difference was significant only in the first 12 hours and then never seen.

There were differences, especially in VAS > 80 between what is said and what the patient said medical staff. This happened either because analgeticului underdosing or by delay its administration.

Pain had a very important role in the administration of liquids and solids. Of patients had less pain intensity (VAS <40) were able to hydrate and nourish, per os, 4 hours, 30 patients (60%) of the total, compared to those with severe pain (VAS > 80), which began to hydrate and consume food every 8 hours (11 patients in total, representing 22%).

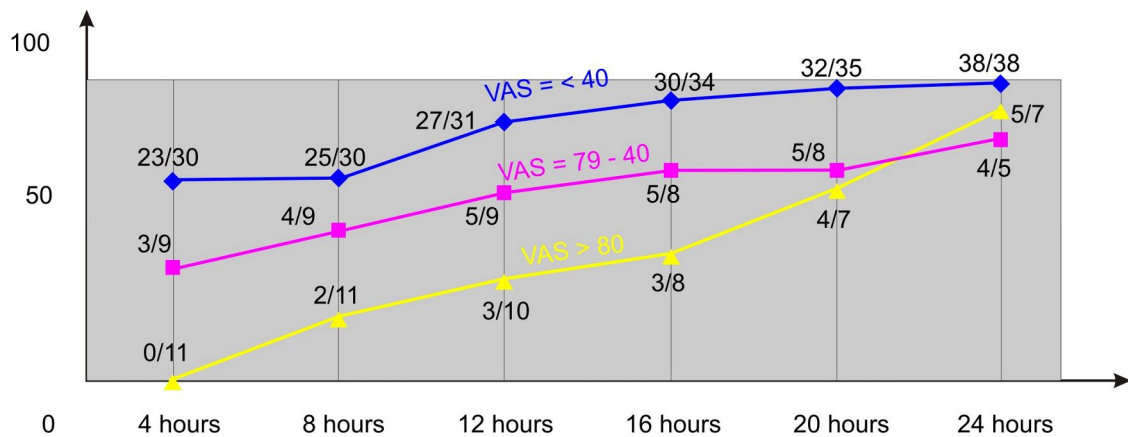


Figure no. 1. Resumption of fluid and food intake according to VAS score, for patients in the 2 groups studied.

STUDY II

METHODS postoperative analgesia: ADMINISTRATION OF bupivacaine epidural colon cancer patients undergoing surgery

Purpose of the study

The purpose of this paper is to present a modern treatment of postoperative pain management in patients with colon cancer undergoing surgery. However, interventional surgical approach is illustrated new and effective, and all pre-and postoperative measures so as to ensure a quick recovery of the patient operated with decreasing hospitalization period and costs, improving prognosis and reducing postoperative complications [7, 8, 9]. We conducted a study of 64 patients, who were divided as follows:

- Group A: 32 patients received general anesthesia only;
- Group B: 32 patients received epidural anesthesia and general anesthesia.

Results and Discussion

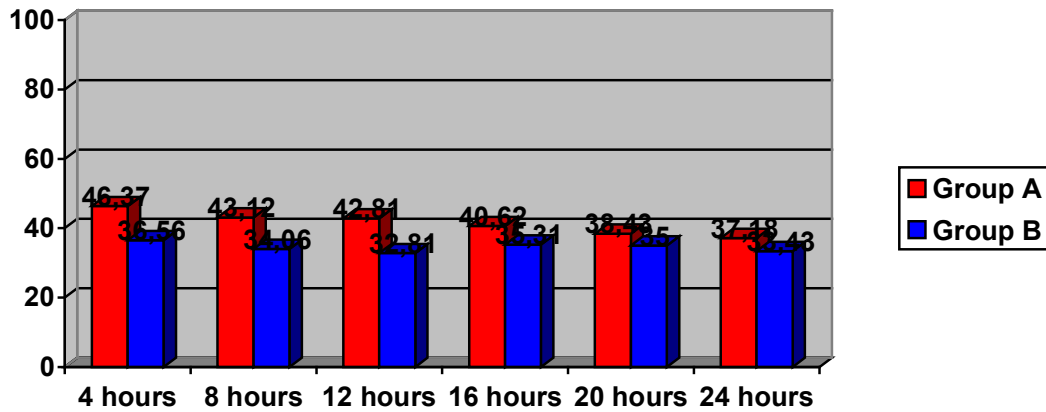


Figure no. 2. Mean VAS scores for static and dynamic colon cancer patients included in the two study groups, the first 24 hours postoperatively.

It is noted that static and dynamic VAS score measured at 4 hours is close to static and dynamic VAS score measured at 24 hours. There is an explanation, namely that 4 hours postoperatively, there are residual effects of general anesthesia, we also have a degree of sedation measured by Ramsay score and the 24-hour pain assessment score decreased.

Ramsay sedation score was slightly higher (> 3) in patients who received only general anesthesia to patients who received epidural anesthesia, epidural anesthesia decreases as opioids and cleaning requirements (Table no. 1).

Was measured Ramsay score > 3 on a total of 14 patients (43.75%) in group A and 12 patients (37.5%) in group B at 2 hours postoperatively. At 6 hours postoperatively was measured Ramsay score > 3 on a total of 5 patients (15.62%) in group B, compared to 4 patients (12.5%) in group A.

At 10 hours postoperatively Ramsay score > 3 is maintained for one patient in group A and 10 hours and 12 hours of group B patients are fully aware.

When measuring Ramsay score > 3	GROUP A	GROUP B
2 hours	14 (43,75 %)	12 (37,5 %)
4 hours	9 (28,12 %)	7 (21,87 %)
6 hours	4 (12,5 %)	5 (15,62 %)
8 hours	2 (6,25 %)	1 (3,12 %)
10 hours	1 (3,12 %)	-
12 hours	-	-

Table no. 2 Measurement Ramsay score at 2 hours postoperatively, for colon cancer patients included in the two study groups

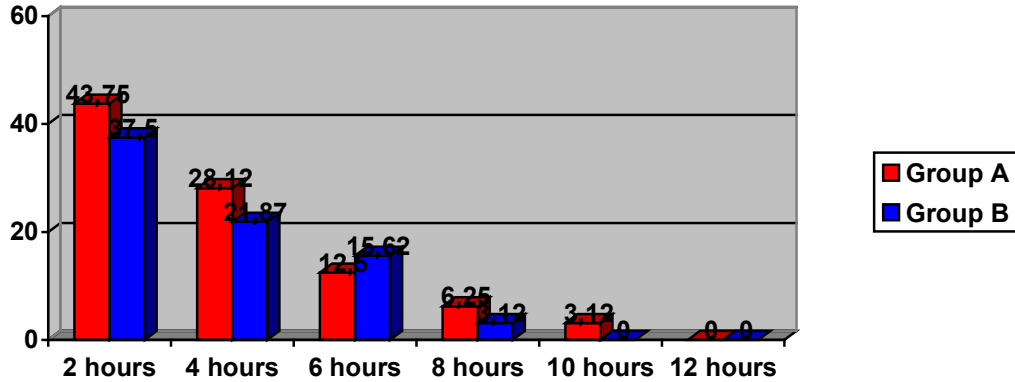


Figure no. 3. Measurement Ramsay score at 2 hours postoperatively, for colon cancer patients included in the two study groups.

STUDY III.

ANALGESIA AND SEDATION METHODS AT PATIENTS WITH OVARIAN ENDOMETRIOSIS AND ENDOMETRIOSIS OVARIAN CYST UNDER LAPAROSCOPIC SURGERY

Purpose of the study

Purpose of this work is to analyze the efficiency of the management of analgesic substances from different pharmacological classes (multimodal analgesia) in acute postoperative pain management after laparoscopic surgery in gynecologic and assess the consequences of this therapy on postoperative evolution in general.

We included 128 patients, female gynecological pathology who underwent laparoscopic surgery, divided into 2 groups as follows: 1.A lot and 2.A. were administered with morphine, lot 1.B. and 2.B. where was administered combined analgesia.

Results and Discussion

At 12 hours postoperatively a number of 16 patients (45.71%) in group 2B compared to 14 patients (48.27%) in group 2.A., both at rest and at mobilization, described pain intensity (VAS > 80).

At 24 hours postoperatively a total of 10 patients (28.57%) in group 2B compared with 10 patients (34.48%) in group 2.A., at rest and a total of 11 patients (31.42%) in group 2B compared to 11 patients (37.93%) in group 2.A., mobilization, described pain intensity (VAS > 80).

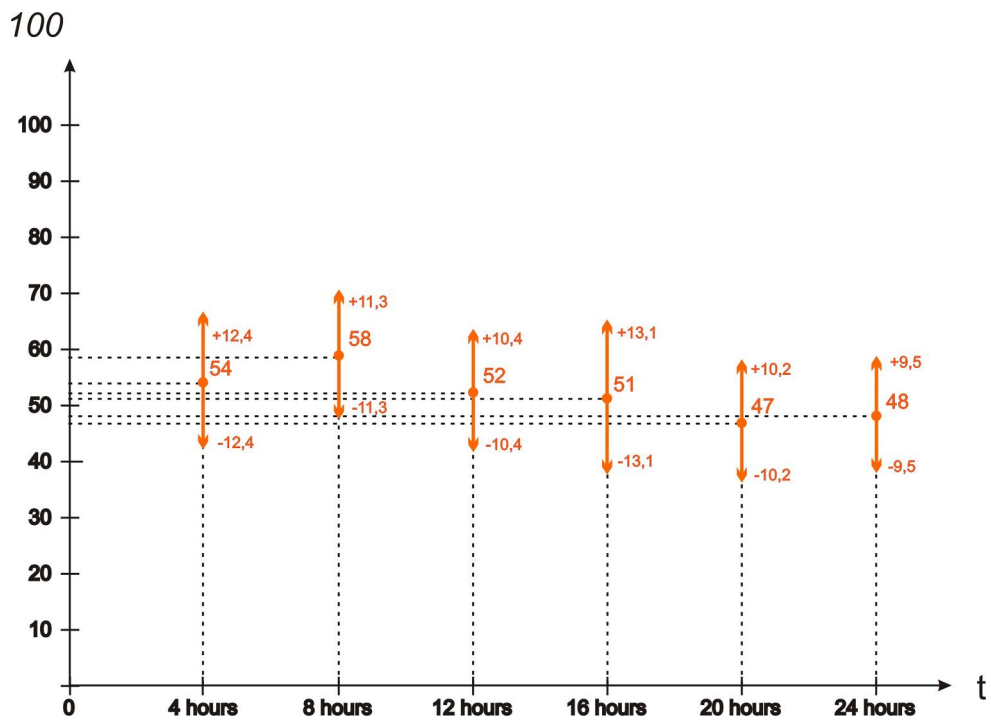


Figure no. 4. Evolution static VAS scores for patients in group 2A environments.

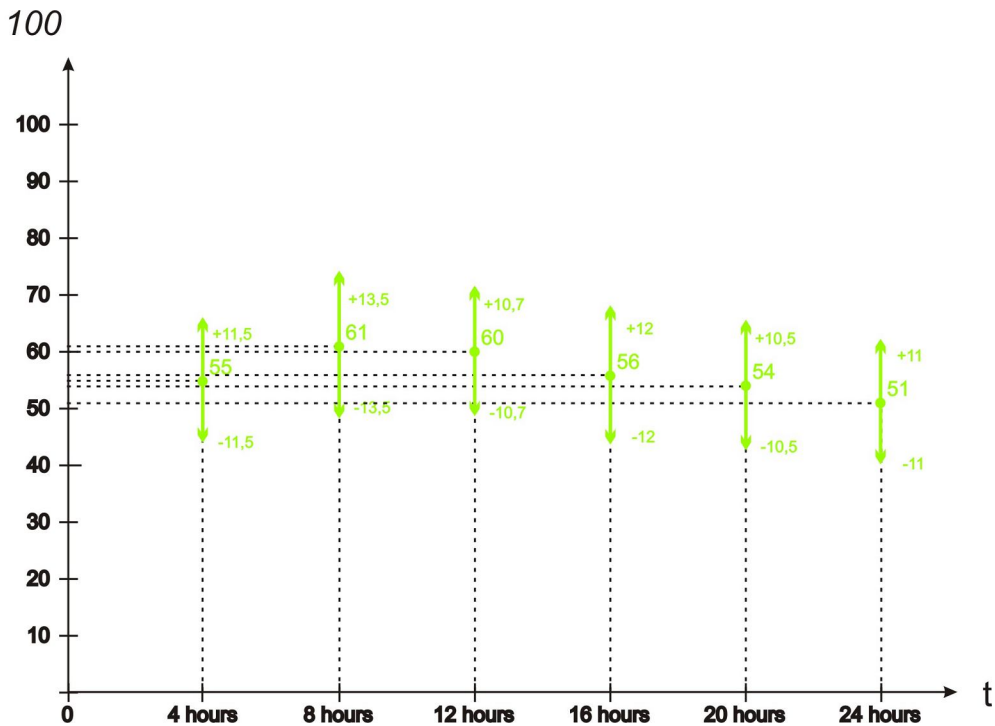


Figure no. 5. Evolution static VAS scores for patients in group 2B middle.
In group 1.A. was a better postoperative analgesia with a lower average score of pain at

rest and moderate mobilization. These scores are summarized in Table. 17, within 24 hours.

In group 1.A. It was a better postoperative analgesia with a lower average score of pain at rest and moderate mobilization.

In group 1.B. was found at 4 hours postoperatively, mean values of $56 + 14.5$, at rest and $63 + 11.3$, to mobilize moderate values significantly increased compared to group 1.A. and 1.B., batch received postoperative analgesia with morphine.

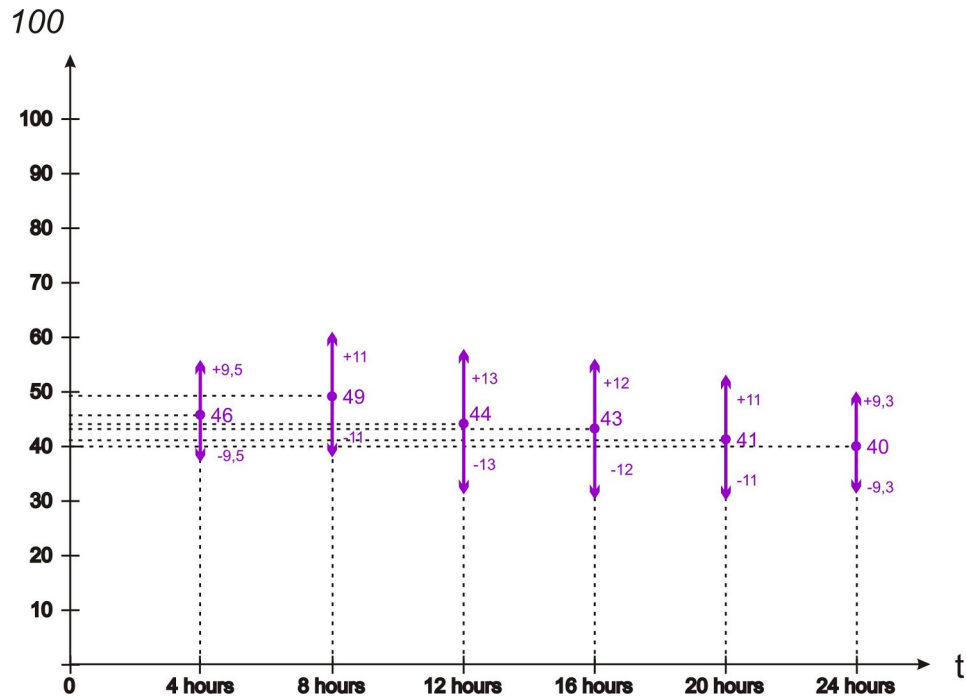
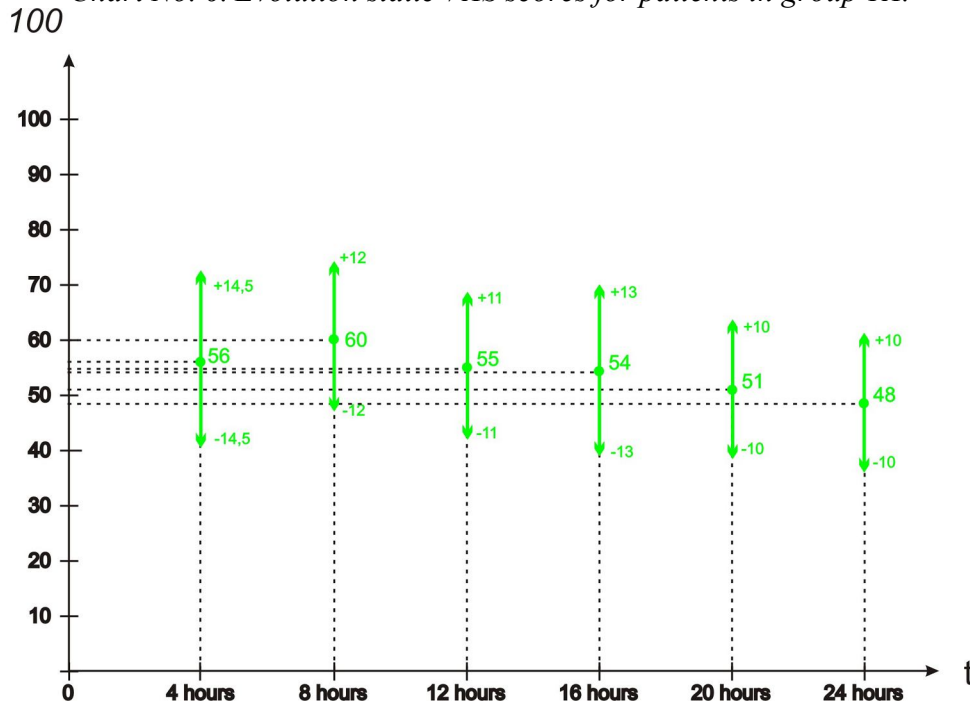


Chart No. 6. Evolution static VAS scores for patients in group 1A.



Grafic nr.7. Evoluția scorurilor VAS static la pacientele din lotul 1B.

Patients in group 2.A. and 2.B. I noticed a slight improvement in mean VAS scores both at rest and at mobilization at 24 hours difference was not statistically significant (VAS static environment 2.A group 48 + 9.5 vs. static environment VAS lot 2.B. 51 + 11; VAS group dynamic environment 2.A. VAS 54 + 10 vs 55 + dynamic environment 2.B. lot 13).

Study IV

**WAYS SEDATION AND PATIENTS SUBJECT I OF INTERVENTION
ENDOSCOPIC MADE OF THE LOCAL UROLOGY LOCALLY
ANESTHETIZED**

Purpose of the study

The purpose of this study is to evaluate the psychological comfort and satisfaction of patients during surgery, performed under loco-regional anesthesia, after application of processes sedation. Loco-regional anesthesia has many advantages, but also disadvantages, which also holds the surgical patient discomfort due to impact with adverse effects on mental state, because keeping vigiliții.

We included a total of 113 patients with various interventions endourologice, receiving loco-regional anesthesia performed with bupivacaine (MARCAINE) 0.5% and we have used two techniques of sedation with Propofol and Midazolam, classified ASA I, ASA ASA II and III, admitted postoperatively in IT Clinic Emergency County Hospital of Craiova, between 01.06.2012 - 23.01.2013.

Physical comfort evaluation was made by:

- Visual analgesic scale over a period of 12 hours at 2 hour intervals for both sedated patients, and those nesdați intraoperatively;
- Ramsay score through a questionnaire completed following intraoperative sedation level at intervals of 15 and 30 minutes, and then at 2, 4 and 6 hours postoperatively.

Results and Discussion

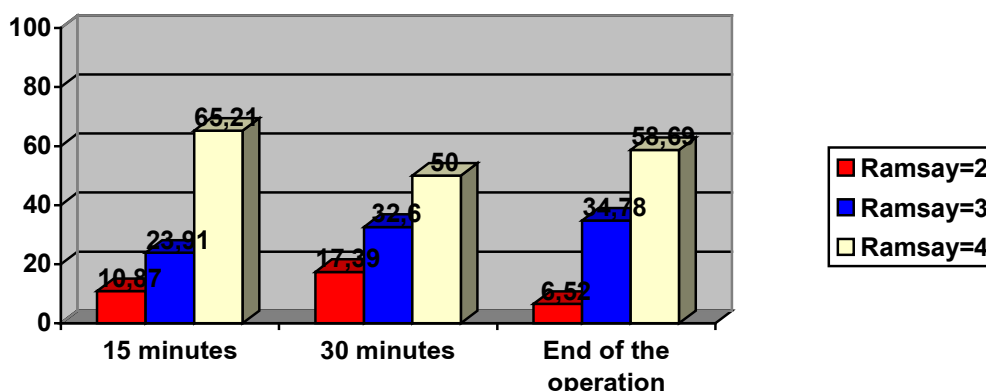


Figure no. 8. Intraoperative determination Ramsay score patients in group A (sedation with midazolam).

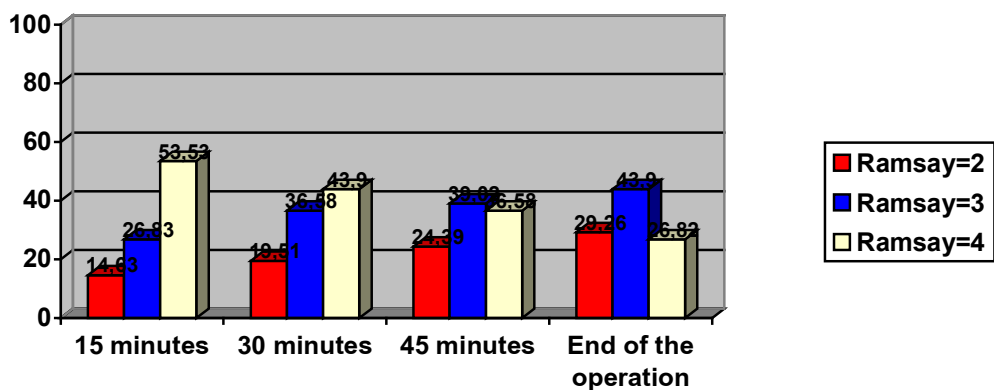


Figure no. 9. Intraoperative determination Ramsay score patients in group B (sedation with propofol).

Comparing the results between groups A and B in the sedative-anxiolytic effects were not significant changes, however extra peace of mind we noted in patients Lot B.

CONCLUSIONS

1. Sedation with propofol or midazolam, during loco-regional anesthesia, increase wellbeing and patient satisfaction, and improving static and dynamic VAS values compared with patients who received no sedation.
2. Sedation should be carried out taking into account the patient's request, and hemodynamic and respiratory parameters.
3. Sedation with midazolam appears to provide better hemodynamic stability, reducing SBP values less, Tad and AV compared to variant Propofol sedation was used.
4. Application of intraoperative sedation techniques with Midazolam or Propofol significantly reduced risk of intraoperative and postoperative 6 hours flares hypertension and tachyarrhythmia episodes induced stress operator.

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