The beneficial effect of preoperative Gabapentin on acute postoperative pain after laparoscopic sleeve gastrectomy

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Goal of Study

Regardless the minimum invasiveness of laparoscopic gastric sleeve, the acute postoperative pain is still the dominant complaint for the patients.

Thus, the effective postoperative pain management is crucial in the care of subjects experiencing such interventions.

Our prospective randomized, double-blind placebo-controlled study, investigated whether a preoperative oral dose of gabapentin improves the quality of analgesia management during first 24h postoperatively after laparoscopic sleeve gastrectomy.

Materials and Method

Results and Discussion

VAS				
Study group	1h	6h	12h	24h
Group G N=22	1.81+/-0.74	2.03+/-0.42	2.98+/-0.32	3.49+/-0.25
Group P N=20	2.92+/-0.58	3.68+/-0.87	4.54+/-0.85	5.09+/-0.63
p	<0.05	<0.05	<0.05	<0.05

Table 1 The intensity of acute postoperative pain, evaluated by VAS, during first 24h after laparoscopic sleeve gastrectomy

VAS scoring revealed a significant lesser postoperative pain in group G compared to group P during first 24h after laparoscopic gastric sleeve. These results should be interpreted as being tightly linked to the analgesic efficacy manifested early after surgical procedure of preoperative Gabapentin.

Figure 1 Time (min) to first analgesic bolus request after laparoscopic sleeve gastrectomy

Figure 2 Total dose of Morphine (mg) administered during 24h after laparoscopic sleeve gastrectomy

Even that the mean time of first analgesic request is prolonged in subjects receiving gabapentin preoperatively, the difference between the two groups does not reach statistical value.

Figure 3 Incidence of nausea/vomiting during first 24h after laparoscopic sleeve gastrectomy

Figure 5 Incidence of sedation during first 24h after laparoscopic sleeve gastrectomy

Figure 6 Incidence of dizziness during first 24h after laparoscopic sleeve gastrectomy

Figure 4 Incidence of urine retention during first 24h after laparoscopic sleeve gastrectomy

The 24h Morphine consumption showed a significant difference between groups, favorable to group G. A better postoperative pain control associated to Morphine-sparing effect of preoperative Gabapentin could explain the reduced need for opioids in group G.

Concerning the safety profile of analgesic regimen, the adverse events were mitigated and rarely documented during study period.

Thus, the number of patients experiencing nausea/vomiting, as well as urine retention was significantly lower in the group receiving Gabapentin compared to the placebo group, whereas the rates of sedation and dizziness appear similar in the two groups.

The reason for such a distribution supports the benefit of Gabapentin in terms of postoperative pain relief and low Morphine consumption, subsequently reducing the inevitably opioid-related adverse events.

Conclusions

According to our findings, oral Gabapentin administered before surgery proves effective and safe analgesia, reducing consistently the opioid consumption during first 24h after laparoscopic gastric sleeve. These peculiarities give us enough reasons to include preoperative Gabapentin in the pharmaceutical arsenal currently used in the management of acute postoperative pain in candidates for laparoscopic sleeve gastrectomy.

Selective bibliography

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