

Miyomektomi sonrası Lornoksikamın Postoperatif ağrı üzerine etkisi

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ÖZET

Bu prospektif randomize çalışmada, miyomektomi operasyonları sonrası lornoksikamın postoperatif analjezik etkilerini değerlendirmeyi amaçladık.

MATERYAL-METOD: Miyomektomi operasyonu geçirecek ASA I-II grubu 40 hasta çalışmaya dahil edildi.

Hastalar randomize olarak iki gruba ayrıldı ve % 0,75'lik ropivakain kullanılarak epidural blok yapıldı.

Operasyon sonrası 1. grup hastalara morfin hasta kontrollü epidural analjezi (HKEA) + plasebo (2 ml serum fizyolojik iv), 2. grup hastalara morfin HKEA + 8 mg intravenöz lornoksikam verildi. Postoperatif 0,1, 2, 4, 6, 8, 12 ve 24. saatlerde ağrı değerlendirildi. İstatistiksel analizler ki-kare ve students-t testleri kullanılarak yapıldı.

BULGULAR: Postoperatif 2., 4., 6. ve 24. saatlerde ağrı skorları Grup I'de Grup II'ye göre daha yüksekti.

Toplam morfin tüketimi Grup I'de $10,45 \pm 4,03$ ve Grup II'de $4,25 \pm 1,74$ idi.

SONUÇ: Miyomektomi operasyonları sonrası uygulanan tek doz intravenöz lornoksikamın ağrı tedavisi için güvenilir ve etkin olduğu, yeterli analjezi sağladığı ve morfin tüketiminde ve yan etkilerde azalma sağladığı kanaatindeyiz.

Anahtar Kelimeler: Postoperatif analjezi, non-steroidal antiinflammatuar ilaçlar, lornoksikam, miyomektomi

SUMMARY

Effect of Lornoxicam on Postoperative Analgesia After Myomectomy

BACKGROUND: In this prospective, randomized study, we evaluate the postoperative analgesic effect of lornoxicam after myomectomy operations.

MATERIAL-METHOD: Forty ASA I-II patients scheduled for myomectomy operation were enrolled to this study.

Patients were randomly divided into two groups and epidural block was performed with 0,75 % ropivacaine.

After the operation, morphine Patient Controlled Epidural Analgesia (PCEA) combined with placebo (saline 2 ml iv) and morphine PCEA combined with lornoxicam 8 mg iv were administered to patients in Group I and Group II, respectively. Pain was assessed at the 0, 1st, 2nd, 4th, 6th, 8th, 12th and 24th hours postoperatively. Chi-square and student's t tests were used for statistical analysis.

RESULTS: VAS(Visual Analog Scale) scores were higher in Group I than Group II at 2nd, 4th, 6th and 24th hours. Total morphine consumption was 10.45 ± 4.03 in Group I and 4.25 ± 1.74 in Group II.

CONCLUSION: Single dose iv lornoxicam is a safe and an effective treatment option of post-myomectomy pain as it produces effective analgesia, reduces morphine consumption and does not increase the side effects.

Key words: Postoperative analgesia, nonsteroidal-antiinflammatory drugs, lornoxicam, myomectomy

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Introduction

Insufficient pain treatment has negative effects on patients' recovery in the postoperative period. Despite the progresses in pathophysiology and treatment of pain, many patients are still treated inadequately after surgery. It is learned from the studies that 30-75 % of the patients are complaining about moderate to severe pain in the postoperative period (Erdine 2003).

Postoperative pain causes complications which are concluded to prolonged hospital stay. In the postoperative period reduction in respiratory muscle activity and depression in coughing due to pain, cause atelectasia and other pulmonary complications. Severe postoperative pain inhibits early mobilization and increases risk of thromboemboli. Pain increases catecholaminergic response, systemic vascular resistance, myocardial oxygen consumption and causes risks, especially in patients with coronary artery disease. Increased catecholaminergic response also causes harmful results by reducing gastrointestinal motility and splanchnic circulation (Sinatra 1998).

Appropriate and efficient postoperative pain treatment reduces recovery time, hospitalization time and treatment expenditures (Mitchell et al.1989).

In this study we aimed to evaluate the analgesic effect of lornoxicam, an antiinflammatory drug, on myomectomy pain in the postoperative period.

Methods

After approval of ethics committee and patient's informed consent, 40 ASA I-II patients aged 18-40 and scheduled for myomectomy operation were included in the study. Exclusion criteria were; allergy to local anesthetics, non-steroidal anti-inflammatory drugs (NSAIDs) and lornoxicam, abnormal coagulation profile, peripheral neuropathy, mental retardation, disturbances of liver, kidney and gastrointestinal system and hypovolemia.

All patients were informed about the Patient Controlled Analgesia (PCA) device (Pain Management Provider, Abbott Laboratories, North Chicago, IL, USA) and Visual Analog Scale (VAS) scoring system during preoperative visits.

Patients were not premedicated. At the arrival to

the operating room, patients were randomized into 2 groups and routine monitorization, including ECG, NIBP and SpO₂, were applied to all patients. After venous cannulation with a 22G cannula, midazolam 0.03 mg/kg iv was given and 1000 ml ringer lactate solution was infused. Epidural block was performed in the sitting position. Following local anesthesia, epidural space was found using loss of resistance to saline (LORS) technique with an 18-gauge Tuohy needle (SIMS Portex Ltd. Hythe, Kent CT21 6JL, UK) and continuous epidural catheter was placed at the L4-L5 interspace. 3 ml 2 % prilocaine was used as test dose. Then 0.75 % ropivacaine at a dose of 15-20 ml was given and a block at T3-4 was usually achieved. Systolic arterial pressure (SAP), diastolic arterial pressure (DAP), mean arterial pressure (MAP), heart rate (HR) and SpO₂ were recorded at 5 minute intervals. After the operation morphine PCEA (Patient Controlled Epidural Analgesia) combined with iv 2 ml placebo (saline 2 ml iv) and morphine PCEA combined with lornoxicam 8 mg (2 ml) iv were administered to patients in Group I and Group II, respectively. Morphine PCEA was programmed as 2 mg loading dose, 1 mg bolus dose and 20 minutes lockout interval. Pain scores was assessed using VAS scale at 0, 1st, 2nd, 4th, 6th, 8th, 12th and 24th hours postoperatively. VAS<3 was accepted as sufficient analgesia. When VAS >3, morphine 1 mg iv bolus was given additionally. If additional morphine bolus did not relieve pain, meperidine 0.5 mg/kg iv was administered to patients. Side effects like, nausea-vomiting, pruritis, respiratory depression, hypotension, bradycardia , urinary retention, sedation were recorded. Sedation was assessed using Ramsey Sedation Score (Cavaliere et al. 2002).

SPSS for Windows 11.5 was used for statistical analysis. Data were expressed as mean±SD. Repeated measures and morphine consumption were analyzed using Student's t-test and paired samples t-test between groups and within groups, respectively. Qualitative data were analyzed by Chi-square test. p<0.05 was accepted for significance.

Results

Demographic data of the patients were indifferent and shown in Table 1.

SAP, DAP, MAP, HR and SpO₂ changes were not statistically significant when compared between

Table 1. Demographic data of patients in Group I (control) and Group II (lornoxicam)

	Group I (Control)	Group II (Lornoxicam)	P
Age (year±SD)	32.50±5.042	34.00±4.995	0.123
Weight(kg±SD)	63.25±12.109	65.45±9.322	0.168
Height (m±SD)	1.6295±0.06677	1.6350±0.04110	0.756

and within the groups. VAS scores were significantly higher in Group I than Group II at 2nd, 4th, 6th and 24th hours ($p < 0.05$) (Figure 1). When VAS scores were compared within groups, results were significantly different at 2nd, 4th and 6th hours in Group I ($p < 0.05$) and at 8th hour in Group II ($p < 0.05$).

Total morphine consumption was significantly different between groups from the 2nd hour ($p < 0.05$) (Figure 2). Meperidine was not needed as a rescue analgesic in any patient.

Nausea-vomiting was observed in 5 and 4 patients in Group I and Group II, respectively. Pruritis was present in 3 patients in Group I and in 2 patients in Group II. Only 1 patient felt dizzy in Group I. Sedation scores were not different between groups.

Discussion

An appropriate postoperative analgesia prevents most of the negative effects of postoperative pain and the necessity of postoperative pain treatment is accepted by all physicians (Dionne et al. 1983).

Opioid analgesics are used for postoperative pain treatment for years, on the contrary, usage of NSAIDs are fairly new. In recent years, technological developments provide invention of more powerful synthetic molecules and widespread usage of NSAIDs are occurred (Owen H et al. 1986). COX-2 inhibitors are newer drugs having less adverse effects (Papadima et al. 2007). A new drug, lornoxicam has a special importance in postoperative pain treatment. In clinical studies, postoperative pain treatment with lornoxicam was shown to be as effective as opioid analgesics like morphine, meperidine and tramadol after gynecologic and orthopedic surgeries.

(Sunshine et al. 1988, Radhofer-Welte et al. 2000). In studies it is pointed at that conventional NSAIDs reduce total narcotic analgesic usage, side effects of them and increase the quality of analgesia (Thompson et al. 2000). In Arslan et al.'s study, lornoxicam decreased the opioid need, the incidence of nausea and vomiting and postoperative pain scores. Also, it was observed that the time needed for the first analgesic requirement was prolonged following thyroidectomies (Arslan et al. 2006).

Staunstrup et al. reported that 8 hours of follow up was enough after single dose of lornoxicam (Staunstrup et al. 1999). In our study we followed the patients for 24 hours in the postoperative period for probable complications.

In many studies the analgesic efficiency of lornoxicam on moderate to severe pain was compared with placebo, other antiinflammatory drugs and opioids (Dionne et al. 1983, Serpell et al. 1989). Ilias et al. compared 4 and 8 mg lornoxicam with 50 mg tramadol in post-hysterectomy pain and found 8 mg lornoxicam had the same effectiveness with 50 mg tramadol with more tolerability (Ilias et al. 1996). Gong et al. used lornoxicam patient controlled analgesia after hysterectomy and hysteromyomectomy for eliminating pain and compared the drug with morphine patient controlled analgesia and tramadol patient controlled analgesia. They reported that lornoxicam was a good alternative to morphine and tramadol (Gong et al. 2001).

Staunstrup et al. reported that by using single dose of 16 mg lornoxicam, more reduction was observed than 100 mg tramadol in anterior cruciate ligament reconstruction pain (Staunstrup et al. 1999).

Trampitsch et al. applied morphine patient controlled analgesia combined with lornoxicam or placebo to the patients after gynecological operations. They observed that lornoxicam reduced morphine consumption and when combined with opioids it produced perfect results in postoperative pain relief (Trampitsch et al. 2003).

Karaman et al. found that preemptive administration of lornoxicam and ketoprofen effectively reduced postoperative pain and morphine consumption, and lornoxicam was more effective than ketoprofen in the early postoperative period af-

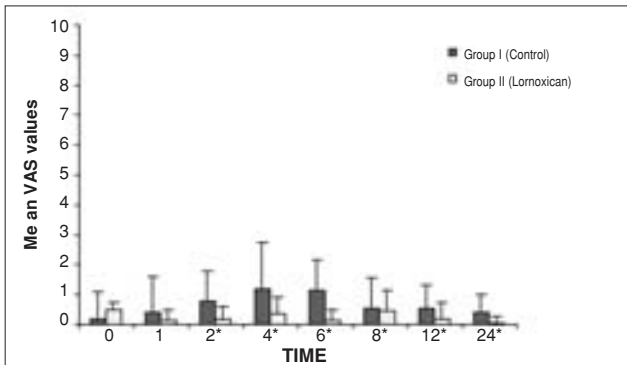


Figure 1. Mean VAS values of groups according to time (*: p<0.05)

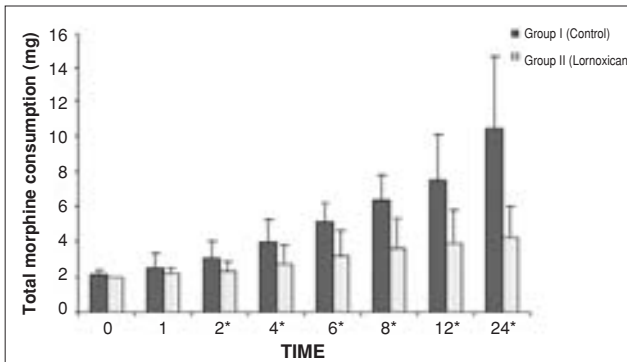


Figure 2. Total morphine consumption of groups according to time(*:p<0.05)

ter abdominal hysterectomy (Karaman et al. 2006). In our study lornoxicam reduced pain more than 50% when compared with control group.

Analgesic treatment when administered in the last stage of operation or early postoperative period assists in relieving postoperative pain (Rogers et al.1995). Therefore, we prefer to use single dose lornoxicam in the early postoperative period.

Ng et al. used parecoxib 40 mg in total abdominal hysterectomy cases and they observed significantly lower visual analog scale (VAS) scores when compared with the results of placebo (Ng et al. 2003). On the other hand Huang et al. administered rofecoxib per oral preemptively in radical prostatectomy patients and did not find any difference in VAS scores when compared with VAS scores of placebo (Huang et al. 2001).

In our study the VAS scores of control group were significantly higher than the lornoxicam group at the 2nd, 4th, 6th and 24th hours. As we used

lornoxicam in early postoperative period we observed better pain relief than control group. Patients of the control group reached the same VAS scores after the 6th hour by using greater amounts of morphine.

Malan et al. used parecoxib in total hip arthroplasty patients and found that administration of parecoxib with PCA morphine resulted in lower pain scores, reduction in opioid requirement and reduced time on PCA morphine (Malan et al. 2003).

In our study, total morphine consumption was 4.25 ± 1.74 mg in lornoxicam group and 10.45 ± 4.05 mg in control group. Patients in control group used more morphine than patients in lornoxicam group from the 1st hour postoperatively.

Analgesic management is ethically mandatory for patients in control groups during studies concerning postoperative analgesia and opioid patient controlled analgesia is frequently preferred. However, side effects like, respiratory depression, sedation, urinary retention arise depending on the dosage of opioids. Respiratory depression is the usual cause of the most of the deaths. Sedation is a predatory factor of respiratory depression (Macintyre 2001).

In our study we used Ramsey Sedation Scores during follow ups for early recognition of respiratory depression.

Akin et al. found morphine consumption during 24 hours as 24.51 ± 8.59 mg and 49.16 ± 7.64 mg in piroxicam and placebo groups, respectively but sedation scores of the groups were similar (Akin et al. 2002).

In Ng et al.'s study total morphine consumption was 54 mg and 72 mg in parecoxib and placebo groups, respectively but sedation scores did not differ significantly between groups (Ng et al. 2003).

In our study total morphine consumption during 24 hours was 4.25 ± 1.74 mg in lornoxicam group and 10.45 ± 4.05 mg in control group. These results were significantly different but sedation scores were found similar.

Tendency to bleeding increases during treatment with NSAIDs (Schafer 1995). Lornoxicam also has

this effect, but the doses used in our study usually do not increase bleeding and can be safely used (Blaicher et al. 2004).

Patients were followed for bleeding complication and it was not observed in any patient. This result was parallel to the similar studies (Schafer 1995, Detlet 1998). Also patients with peptic ulcer and bleeding disorders were not included in the study.

Postoperative nausea-vomiting has many etiological factors and opioids is one of the major. Morphine PCA increases the ratio up to 50% (Benzon et al.1993, Tramer 1999, Tramer 2001). In a study by Akin et al., there was no significant difference between nausea scores of the groups. Piroxicam was used preemptively and morphine PCA was continued as 0.1 mg/hr basal infusion, 0.5 mg bolus, 15 min lockout interval (Akin et al 2002).

In Ng et al.'s study morphine PCA used as 1 mg bolus, 5 min lockout interval. Although morphine consumption was 54 mg and 72 mg in parecoxib and control groups, respectively, there was no significant difference between nausea-vomiting attacks of patients in both groups (Ng et al. 2003).

In our study, morphine PCEA was programmed as 2 mg loading dose, 1 mg bolus dose and 20 minutes lockout interval. Nausea-vomiting was observed in 5 patients (%25) in control group and in 4 patients (%20) in lornoxicam group. When incidences of nausea-vomiting were compared between groups, no statistically significant difference was found ($p= 0,705$).

As a result; lornoxicam 8 mg iv given early in the postoperative period to patients scheduled for myomectomy operation, provided effective analgesia and decreased morphine consumption as from the early postoperative period and did not increase the incidence of side effects. We concluded that lornoxicam is a good and a safe choice for postoperative analgesia after myomectomy operations.

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