Efficacy of Dexamethasone Added to Bupivacaine in Ultrasound Guided Transversus Abdominis Plane Block for Postoperative Analgesia after Inguinal Herniorraphy

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Abstract: Background: Appropriate pain management protocols reduce postoperative morbidity, improve the results of the surgery and decrease hospital costs. Adequate postoperative pain relief is associated with positive long-term effects for patients such as; reduced postoperative cognitive dysfunction, better quality of life and reduced risk of chronic or persistent postoperative pain. **Objective:** The aim of the present study is to determine the effect of adding dexamethasone to bupivacaine on postoperative pain in patients receiving ultra-sound guided transversus abdominis block (TAP) for inguinal hernia repair. **Methodology:** The present study was carried out on 30 patients scheduled for elective primary unilateral open inguinal hernia repair. Patients were randomized, double blind controlled into two equal groups (15 patients each) according to the adjuvant added to the local anesthetic in the TAP block which was performed with ultrasonography. **Results:** The current study revealed that addition of preemptive dexamethasone to bupivacaine in patients receiving transversus abdominis plain block (TAPB) guided with ultrasound for inguinal hernia repair result in, longer time till first opioids requirement, prolonged the duration of the block, decreased requirement for opioids, early ambulation, patients more satisfaction and decreased incidence of nausea and vomiting and no local anesthetic toxicity, no hematoma or excessive tissue trauma had been developed at the site of injection in both groups. **Conclusion:** Our study showed that addition of Preemptive dexamethasone to bupivacaine in patients receiving transversus abdominis plain block (TAPB) guided with ultrasound for inguinal hernia repair resulted in: Longer time till first opioids requirement, prolonged the duration of the block, fewer requirements for opioids, early ambulation, more satisfaction and decreased the incidence of nausea and vomiting.

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1. Introduction

Inguinal herniorrhaphy is one of the most common surgical procedures which can be performed under different anesthetic techniques yetit is usually associated with postoperative pain that leads to increased consumption of analgesics, delayed bowel motion and other complications [(1)].

Researches showed that many patients complain of considerable amount of pain after this surgical procedure and need intravenous, epidural, patient-controlled analgesia (PCA) or intraperitoneal injection of local anesthetic to control this postoperative pain. None of these analgesic techniques proved to be safe than the other [(2)].

Inguinal herniorrhaphy is commonly performed under spinal or general anesthesia combined with an ilioinguinal/iliohypogastric nerve block or surgical field infiltration with a long-acting local anesthetic (LA) agent [(3)].

LA infiltration improves acute postoperative pain management, decreases postoperative visual analogue scale (VAS) scores, overall opioid demand and time to first rescue analgesic administration [(4)].

This block was first described as a land mark guided technique involving needle insertion at triangle of petit, this area bounded by latissimus dorsi muscle posteriorly, external oblique muscle anteriorly and iliac crest inferiorly [(5)].

Epidural analgesia has a potential risk of dural puncture, infection, and epidural hematoma, as well as muscle weakness [(6)].

On the other hand, Transversus abdominis plane block (TAP block) was firstly described by Rafi in 2001. It enables pain control through blocking sensory nerves by injecting local anesthetics into abdominal muscle [(7)].

It has been shown to provide good postoperative analgesia for a variety of procedures. This blinded technique may cause an inappropriate block since the location of the needle may not beprécised. Fatal complications such as bowl puncture and liver injury have been also reported [(8)].

The transversus abdominis plane (TAP) block has been described as an effective technique to reduce postoperative pain intensity and opioids consumption after lower abdominal surgery [(9)].

Ultrasound guided technique TAP block have been used successfully to avoid the problem of the blind technique and provided better control of a variety of postoperative pain after cholecystectomy, cesarean section, or hernia repair [(10)].

Transversus abdominis block (TAP block) performed in conjunction with ultrasonography for postoperative analgesia is more frequently used as an alternative modality in lower abdomen surgery; different drug combinations have been explored to determine the most efficient analgesic combination [(10)].

The addition of adjuvant substances to the LA drugs in TAP and their efficiency has been studied. The effect of LA adjuvant substances may be increased to provide an effective and long-lasting nerve blockade [(11)].

Bupivacaine Hydrochloride is used as LA and is available in sterile isotonic solutions for injection via local infiltration, peripheral nerve block, caudal and lumbar epidural blocks. Solutions are clear and colorless. Bupivacaine is related chemically and pharmacologically to the amino acyl local anesthetics [(12)].

Methyl prednisolone in addition to local anesthetic increased the duration of axillary brachial plexus block, whereas dexamethasone microspheres have increased the block duration in both human and animal studies. Furthermore, Dexamethasone has long and efficient glucocorticoid activity and also offers anti-inflammatory properties. When added to LA as an adjuvant in peripheral blocks, it increases the duration [(13)].

Aim of the work

The aim of the present study is to determine the effect of adding dexamethasone to bupivacaine on postoperative pain in patients receiving ultra-sound guided transversus abdominis block (TAP) for inguinal hernia repair.

2. Patients and Methods

After approval of local Ethical Committee, and with a written informed consent from each patient, the present study was carried out on 30 patients scheduled for elective primary unilateral open inguinal hernia repair.

Study period: Six months.

A) Inclusion Criteria:

* Patients undergoing inguinal hernia.
* ASA I, II.
* Age between (20-60)

B) Exclusion criteria:

* Patient refusal.
* Long term steroid therapy.
* BMI ≥25kg/ m2.
* Patients with diabetes mellitus.
* Patient with mental disability (dementia, delirium, psychiatric and Neurological disorder).
* Coagulopathy.
* Preoperative opioid or non-steroidal anti-inflammatory drugs.
* Allergy to anesthetic agents.

Study groups:

Patients were randomized, double blind controlled into two equal groups (15 patients each) according to the adjuvant added to the local anesthetic in the TAP block which was performed with ultrasonography.

Group I: The patients were received 20 ml of 0.5% bupivacaine with 2 ml 0.9% NaCl which were administered in a TAP block performed with ultrasound guided at the same side of the operation.

Group II: The patients were received 20 ml of 0.5% bupivacaine with 2 ml dexamethasone (8 mg) which were administered in the TAP block performed with ultrasound guided at the same side of the operation.

Ethical Considerations: After approval of local Ethical Committee, and with a written informed consent from each patient, the present study was carried out on 30 patients scheduled for elective primary unilateral open inguinal hernia repair.

Preoperative evaluation and preparation: Evaluation of patients was carried out through proper history taking, clinical examination and routine laboratory investigations (complete blood count, bleeding time, clotting time, PT, PTT, INR, urea, creatinine, AST, ALT, and blood sugar level). ECG for patients above 40 years. All patients were informed with the procedure of US guided TAP block and were trained to use the visual analogue scale (VAS).

Intraoperative procedure: All surgical procedures were performed using the Lichtenstein's technique (open repair of inguinal hernia with a mesh). Ultrasound guided TAP blocks with the same technique were done for all patients after the end of surgery.

Anesthetic technique: General anesthesia was induced in both groups as following: Patients were put in a supine position and pre-oxygenated with 100% oxygen facemask for 3 minutes. Induction of anesthesia was done with intravenous fentanyl (1µg/kg) andpropofol (2mg/kg) injected slowly and cisatracurium (0.15mg/kg) IV to facilitate endotracheal intubation using a proper size laryngoscope. The patients were mechanically ventilated and anesthesia was maintained with isoflurane (1.2−1.5%) in 100% oxygen and incremental doses of cisatracurium (0.03mg- kg). Ultrasound guided TAP block was performed to all

patients at the same side of inguinal hernia repair according to the group.

Measurements:

1. Vital signs:

Heart rate (beat per minute) was recorded before induction of anesthesia and every 15 minute intraoperative and then immediately postoperative, 1, 2, 3, 4 and every 4 hours for the rest 24 postoperative hours constituting the study period.

Mean arterial blood pressure (MABP) in mmHg was recorded before induction of anesthesia and every 15 minute intraoperative and then immediately postoperative, 1, 2, 3, 4 and every 4 hours for the rest 24 postoperative hours constituting the study period.

Pulse O_2 saturation was recorded before induction of anesthesia and every 15 minute intraoperative and then immediately postoperative, 1, 2, 3, 4 and every 4 hours for the rest 24 postoperative hours constituting the study period.

2. Pain assessment:

A) Visual analogue scale during rest (VASR) and movement (VASM): Pain was assessed by direct marking on (VAS) which was illustrated to patients before the operation which consists of 10 cm line, 0 cm equivalent to no pain and 10 cm denoting the worst imaginable pain. Patients were asked to indicate on the line where pain was in relation to the two extremes. Visual analogue scale during rest (VASR) and movement (VASM) were recorded immediately postoperative, 1, 2, 3, 4 and every 4 hours for the rest of 24 postoperative hours constituting the study period as the pain was measured during rest and during movement of the patient in the ward. Rescue analgesia in the form of nalbuphine 4mg was given IV when VAS scores≥4 at any time in first 24 hours postoperatively. Time to the first Rescue opioid analgesic dose: The time from the end of the surgery to the first analgesic dose was recorded (in minutes).

B) Duration of analgesia: Duration of analgesia defined as the time interval from completion of localanesthetic administration till first need of rescue analgesic.

C) Total dose of opioids analgesic requirements: The total dose of nalbuphine given to the patients postoperatively was calculated and elaborated statistically.

3. Patient ambulation time: The time elapsed from the completion of the surgery till the patient first ambulation.

4. Post-operative nausea and vomiting (PONV)

A) None

B) Yes, and relieved by treatment.

C) Yes, but not relieved by treatment.

Intravenous metoclopramide (10mg) and ondasteron (4mg) were given as the first and second lines for the treatment of nausea and vomiting respectively.

Statistical analysis:

Normally distributed numerical data were presented as mean ± SD and were compared using Student's t-test, Non-normally distributed numerical data were presented as median (IQR) and were compared using Mann-Whitney U-test. Categorical variables were analyzed using the $\chi 2$ test, with ″p″ value:

- $P > 0.05$ insignificant test
- $P \leq 0.05$ significant test
- $P \leq 0.01$ highly significant

3. Results

The present study was carried out on 30 adult male patients aged 20 to 60 years, ASA class I or II scheduled for elective primary unilateral open inguinal hernia repair.

The technique was successfully performed with no technical problems. All patients starting the study completed it successfully and were all included in the subsequent statistical analysis.

Demographic data:

There were no statistically significant differences between the two groups as regards age, weight or sex prevalence between the two groups of the study as shown in table 1.

Table (1): Comparison between the two studied groups according to demographic data

	Group (A) (n=15)	Group (B) (n=15)	p-value
Age (yr)	38.73 ± 10.33	40.0 ± 11.19	0.750
Weight (kg)	72.0 ± 5.37	71.8 ± 4.78	0.915
BMI	23.11 ± 1.31	22.37 ± 1.44	0.149
ASA (I/II)	12/3	10/5	0.682

Data are mean ± SD or number of patients. *P<0.05 was considered statistically significant.

Duration of analgesia (min):

Group I: Patients had a mean of 332.7 ± 35.25 minutes, minimum time was 240 minutes and maximum was 375 minutes. Group II: Patients had a mean of 502.3 ± 20.52, minimum time was 465 minutes and maximum was 525 minutes.

Comparison between the studied groups showed highly significant increase in group II compared to group I as regard duration of analgesia (P <0.001*) as shown in table 2.

Table (2): Comparison between the two studied groups according to duration of analgesia

Duration of analgesia	Group I (n = 15)	Group II (n = 15)	p
Mean ± SD.	332.7 ± 35.25	502.3 ± 20.52	<0.001**

p value for comparing between the two groups *: Statistically significant at p ≤ 0.05 **: Highly significant at p≤0.001

Time till 1st opioid dose (Minutes)

Group I: Patients had a mean of 412.0 ± 37.51 minutes, minimum time was 180 minutes and maximum was 960 minutes. Group II: Patients had a mean of 412.0 ± 310.0, minimum time was 480 minutes and maximum was 1200 minutes.

Comparison between the studied groups showed highly significant increase in group II compared to group Ias regards time elapsed till 1st rescue analgesic dose (P <0.001) as shown in table 2.

Table (3): Comparison between the two studied groups according to time till first opioid dose.

Time till 1st opioid dose	Group I (n = 15)	Group II (n = 15)	p
Mean ± SD.	412.0 ± 310.0	768.0 ± 225.87	0.001**

**: Highly significant at p≤0.001

Total rescue analgesic dose required (mg. Nalbuphine)

Group I: patients had a mean of 24.27 ± 4.40 mg nalbuphine as regards total rescue analgesic dose, minimum was 16 mg and maximum 32 mg. Group II: patients received a mean of 13.60 ± 3.94 mg nalbuphine; minimum was 8 mg and maximum 20mg.

By comparing both groups it was clear that total rescue analgesic dose required was significantly lower in group II (P <0.001) as shown in table 4.

Table (4): Comparison between the two studied groups according total analgesic dose.

Total opioid dose	Group I (n = 15)	Group II (n = 15)	p
Mean ± SD.	24.27 ± 4.40	13.60 ± 3.94	<0.001**

**: Highly significant at p≤0.001

Patient Ambulation time (min):

Group I: patients had a mean of 219.33± 31.95, minimum time was 160 minutes and maximum was 270 minutes. Group II: patients had a mean of 185.33± 42.57, minimum time was 120 minutes and maximum was 240 minutes.

Comparison between the studied groups showed early ambulation in group II (P =0.020*) as shown in table 5.

Table (5): Comparison between the two studied groups according patient ambulation time.

Patient ambulation time (min)	Group I (n = 15)	Group II (n = 15)	p
Mean ± SD.	219.33 ± 31.95	185.33 ± 42.57	0.020*

t: Student t-test p: p value for comparing between the two groups *: Statistically significant at p ≤ 0.05

Visual analogue scale during rest:

Comparison between both groups at different intervals showed statistically significant decrease in group II compared with group I. P values at 4, 8, 12, 16, and 20 hours postoperatively were <0.001, 0.029, 0.016, 0.0 33, and 0.009 respectively as shown in table 6.

Table (6): Comparison between the two studied groups according to VAS r

Time	VAS r		p
	Group I (n = 15)	Group II (n = 15)	
0hr.	2.0 (0.0 – 3.0)	1.0(0.0 – 2.0)	0.233
1hr.	2.0 (0.0 – 3.0)	2.0 (0.0 – 2.0)	0.539
2hr.	2.0 (0.0 – 3.0)	2.0 (0.0 – 3.0)	0.436
3hr.	3.0 (0.0 – 4.0)	2.0 (0.0 – 3.0)	0.126
4hr.	4.0 (2.0 – 5.0)	2.0 (1.0 – 3.0)	<0.001**
8hr.	4.0 (2.0 – 5.0)	3.0 (1.0 – 4.0)	0.029*
12hr.	4.0 (3.0 – 6.0)	3.0 (1.0 – 5.0)	0.016*
16hr.	5.0 (4.0 – 6.0)	4.0 (3.0 – 5.0)	0.033*
20hr.	6.0 (4.0 – 7.0)	5.0 (3.0 – 6.0)	0.009*
24hr.	6.0 (4.0 – 7.0)	5.0 (4.0 – 6.0)	0.010*

p: p value for comparing between the two groups *: Statistically significant at p ≤ 0.05 **: Highly significant at p≤0.001

Visual analogue scale during movement:

Comparison between both groups as regard (VASm) at different intervals showed statistically significant decrease in group II compared with group I. P values at 4, 8, 12, 16 and 20 hours postoperatively were <0.001, 0.001, 0.001, 0.006 and 0.033* respectively as shown in table 7.

Table (7): Comparison between the two studied groups according to VAS m

Time	VAS m		p
	Group I (n = 15)	Group II (n = 15)	
0hr.	2.0 (0.0 – 3.0)	1.0 (0.0 – 2.0)	0.126
1hr.	2.0 (0.0 – 3.0)	2.0 (0.0 – 3.0)	0.512
2hr.	3.0 (2.0 – 5.0)	3.0 (0.0 – 3.0)	0.775
3hr.	3.0 (2.0 – 5.0)	3.0 (2.0 – 4.0)	0.174
4hr.	5.0 (3.0 – 6.0)	3.0 (2.0 – 3.0)	<0.001**
8hr.	5.0 (5.0 – 6.0)	3.0 (3.0 – 4.0)	<0.001**
12hr.	5.0 (5.0 – 6.0)	4.0 (3.0 – 5.0)	0.001**
16hr.	5.0 (4.0 – 6.0)	5.0 (4.0 – 5.0)	0.006*
20hr.	6.0 (4.0 – 7.0)	5.0 (4.0 – 6.0)	0.033*
24hr.	6.0 (4.0 – 7.0)	5.0 (4.0 – 7.0)	0.233

p: p value for comparing between the two groups *: Statistically significant at p ≤ 0.05 **: Highly significant at p≤0.001

Postoperative nausea and vomiting:

Group I: there were 7 patients (46.7%) developed nausea and vomiting treated with medication. **Group II:** 1 patient (6.7%) developed nausea and vomiting treated with medication.

The studied groups showed significant lower incidence nausea and vomiting in group II compared to Group I as shown in table 8.

Table (8): Comparison between the two studied groups according to postoperative nausea and vomiting

Complications	Group I (n = 15)	Group II (n = 15)	FEp
No	8(53.3%)	14 (93.3%)	0.035*
Nausea and Vomiting treated with medication	7(46.7%)	1 (6.7%)	

p: p value for comparing between the two group *: Statistically significant at p ≤ 0.05

4. Discussion

Results of The present study revealed that demographic data (age, sex, and BMI) was matched between the two groups.

In our study there was no significant changes in the (MABP, HR, SPO_2%) intraoperatively or postoperatively when compared to the preoperative value in both groups. Comparison of vital signs MABP, HR, SPO2% at different intervals revealed no statistical difference between both groups.

In our study, visual analogue scale at rest and movement in the two studied groups were compared together. It revealed that VASr and VASm were significantly lower in Group II compared to Group I.

Many studies revealed results that coincide with the results of our study.

A prospective, randomized, double-blind study was performed on Ninety ASA I– III patients, scheduled for radical cystectomy under general anesthesia and were divided into three groups. Group I was given TAP block with 20 ml bupivacaine 0.25% plus 2 ml dexamethasone 8 mg (n = 30), group II was given TAP block with 20 ml bupivacaine 0.25% plus 2 ml normal saline (n = 30) and group III was given general anesthesia without TAP block (n = 30). The study has showed that dexamethasone/bupivacaine group had a significantly lower postoperative VAS score for pain compared with both the bupivacaine group and the control group over the first 24h postoperative [(10)].

In the study performed on 94 patients underwent laparoscopic cholecystectomy were randomly assigned to one of three groups. Group 1 (Control) patients received 5mg dexamethasone iv with epidural injection 8mL 0.25% bupivacaine and 2 mL normal saline, group 2 (D1) patients received 2 mL normal saline iv with epidural injection 8mL 0.25% bupivacaine and5mg dexamethasone in 2 mL normal saline, and Group 3(D2) patients received 2mL normal saline iv with epidural injection of dexamethasone 5 mg in 10 mL normal saline. The study showed that the VAS scores at rest and during effort were also lower in the epidural dexamethasone groups (D1, D2) compared to the control group ($P< 0.05$) [(14)].

The effect of dexamethasone on postoperative analgesia when given as an adjunct for peripheral nerve blocks at the interscalene level showed that dexamethasone group had lower median VAS scores compared with control [(15)].

Similarly a conducted prospective randomized controlled trial study on sixty adult patients underwent elective open abdominal hysterectomy were allocated to receive TAP block with 20 mL of bupivacaine hydrochloride 0.25% plus 2 mL normal saline (control group, n=30) or 20 mL of bupivacaine hydrochloride 0.25% plus 2 mL dexamethasone (dexamethasone group, n=30). They found that the dexamethasone/bupivacaine group had a statistically significantly lower postoperative VAS score for pain compared with the bupivacaine group over the first 24h postoperative [(16)].

Also a prospective, randomized, double-blind study was performed on Forty-two women ASA class I-II who underwent elective cesarian section. They were divided into two groups and received spinal anesthesia with ultrasound guided TAPB. Bilateral 30 ml 0.25% levobupivacaine and 2 ml normal saline for the levobupivacaine group and bilateral 30 ml 0.25% levobupivacaine and 2 ml (8 mg) dexamethasone for the dexamethasone group were administered in a TAP block performed with ultrasonography. They found that the dexamethasone/levobupivacaine group had a significantly lower postoperative NRS1-II scale (NRS 0 = no pain, 10 = intolerable pain) for deep and superficial pain scores compared with levobupivacaine group over the first 24h postoperative [(17)].

Our study showed that one of the advantages of ultrasound TAPB with local anesthetic bupivacaine plus dexamethasone compared to TAPB with local anesthetic bupivacaine only was increased duration of analgesia and the time elapsed till 1st rescue analgesic dose.

Similarly, a study was done on a total of 60 ASA I-II patients who underwent planned total abdominal hysterectomy with general anesthesia. After surgical termination, ultrasound guided TAP block was performed by the same anesthesiologist. The patients were randomly divided into two groups using the envelope method. TAP block was obtained with 19 mL of bupivacaine hydrochloride 0.25%+1 mL normal saline (Group B, n=30) or 19 mL of bupivacaine hydrochloride 0.25%+1 dexamethasone (4 mg) (Group BD, n=30). They found that the time to first analgesic requirement in dexamethasone group was longer compared to control group ($p<0.05$) [(18)].

Also, it was demonstrated that addition of dexamethasone (4 or 8 mg) to bupivacaine significantly prolonged the duration of postoperative analgesia 4mg (21.6 ± 2.4 h) and 8 mg (25.2 ± 1.9 h) compared with the control (13.3 ± 1.0 h) after interscalene block [(19)].

Similarly, El Sharnouby and colleagues prospective randomized a comparative study of different doses. A total of 111 bariatric patients, scheduled for laparoscopic vertical banded gastroplasty received ultrasound guided TAP block. They found that adding dexamethasone 4 or 8 mg to isobaric bupivacaine TAP block reduces postoperative

pain and significantly lengthen the time to first analgesic requirements than Group BC [20].

Another study was done to evaluate the effect of adding dexamethasone to bupivacaine for spinal anesthesia in orthopedic surgery. They found that total dose of rescue analgesic requirements was less in dexamethasone group [21].

The present study not only confirmed the analgesic benefit of TAP block using bupivacaine, it further revealed that the addition of dexamethasone 8 mg to bupivacaine in TAP block provided even more effective analgesia, reduced postoperative pain scores at 6, 8, 12, and 24 h postoperatively, a longer analgesic duration, and lower 24 h analgesic use, with decreased incidence of postoperative nausea and vomiting, as well as early ambulation and more Patient satisfaction.

In the current study no local anesthetic toxicity, no hematoma, excessive tissue trauma or liver injury had been developed at the site of injection in both group. This result could be probably due the guidance of u/s that enabled better visualization of the abdominal structure before injection.

This result was supported by previous randomized controlled study which evaluated the analgesic efficacy of ultrasound guided transversus abdominis plane block for retroperitoneoscopic donor nephrectomy. They did not observe any liver injury in all cases who received ultrasound guided TAP block which allowed real time of visualization of needle tip and relevant anatomical structure, increasing the margin of safety. Also they did not encounter local anesthetic toxicity while doing TAP block as they did not cross the toxic dose of bupivacaine and who precisely injected it in the plain between IOM and TAM and not in muscle [22].

On evaluation of analgesic efficacy of ultrasound guided transversus abdominis plane block after abdominal surgery during the first 48 postoperative hours in a randomized, controlled single-blind clinical trial, authors stated that The TAP block provided highly effective postoperative analgesia in the first 24 postoperative hours after major abdominal surgery, and no complication due to the TAP block were detected [23].

In contrast to the results of the present study, one hundred and forty-four patients scheduled for elective arthroscopic shoulder surgery were allocated randomly to one of four groups. Patients received 12 ml of ropivacaine 0.5% in 0.9% saline (control group), or containing dexamethasone 2.5, 5.0 or 7.5mg for single-shot interscalene brachial plexus block (SISB). Dexamethasone demonstrated significant beneficial dose-dependent effects on duration to the first analgesic request, the number of patients not requiring analgesics and analgesic use in the first 48 h after SISB for arthroscopic shoulder surgery. There were no significant effects on pain scores or incidences of adverse effects [24].

Also, in contrast to the results of the present study, 24 patients had an epidural catheter inserted at T4-5 or T5-6 were divided into two groups. Group (p) received a mixture of bupivacaine 100mg plus 0.1 mg epinephrine and group (MP) they received a mixture of bupivacaine 100 mg plus 0.1 mg epinephrine plus 8 mg dexamethasone. Results revealed that time till the first rescue morphine requirements did not differ between the 2 groups. This might be explained that both groups received adjuvant epinephrine which already increased the duration of analgesia [25].

5. Conclusions

Our study showed that addition of Preemptive dexamethasone to bupivacaine in patients receiving transversus abdominis plain block (TAPB) guided with ultrasound for inguinal hernia repair resulted in: Longer time till first opioids requirement, prolonged the duration of the block, fewer requirements for opioids, early ambulation, more satisfaction and decreased the incidence of nausea and vomiting. As regarding patient complication there was no local anesthetic toxicity, no hematoma or excessive tissue trauma at the site of injection in both groups.

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