



COMPARING THE ANALGESIC POTENCY OF ROPIVACAINE 0.25% VERSUS ROPIVACAINE 0.5% IN TRANSVERSUS ABDOMINIS PLANE BLOCK IN GYNECOLOGICAL LAPAROSCOPIC SURGERIES

Dr. Vanshika Garg	Resident, Department Of Anesthesiology, SAIMS, Indore.
Dr. Archa Kachole	Resident, Department Of Anesthesiology, SAIMS, Indore.
Dr. Bipin Arya	Professor, Department Of Anesthesiology, SAIMS, Indore.
Dr. Swapnil Baraskar	Asst. Professor, Department Of Anesthesiology, SAIMS, Indore.
Dr. Sarita Gohiya	HOD And Professor, Department Of Anesthesiology, SAIMS, Indore.

ABSTRACT

Gynecological laparoscopic surgeries are becoming common these days due to their higher cosmetic compliance and early ambulation. But postoperative pain poses a threat to both the anesthesiologist and the surgeon. It delays ambulation and increases the chances of thromboembolism. Transversus abdominis plane block promises better post operative analgesia, decreases the opioid demand and thus decreases their side effects. Transversus abdominis plane block with 0.5% ropivacaine showed significantly better results as compared to 0.25% ropivacaine.

KEYWORDS :

INTRODUCTION -

Transversus abdominis plane (TAP) is a neurovascular plane block between the internal oblique muscle and the transversus abdominis muscle through which passes the nerves supplying the anterolateral abdominal wall. Application of the local anesthetics in this plane will produce myo-cutaneous sensory block between T10 and L1 intercostal nerves.

Postoperative pain after laparoscopic surgeries poses a major problem for both the surgeon and the anesthesiologist. Inadequate postoperative analgesia delays ambulation with subsequent increased risk of thromboembolism. Transversus abdominis plane (TAP) block represents one of the most widely used regional analgesic techniques for postoperative analgesia.

AIMS AND OBJECTIVES -

1. To study the analgesic effect of 0.25% ropivacaine in transversus abdominis plane block in gynecological laparoscopic surgeries
2. To study the analgesic effect of 0.5% ropivacaine in transversus abdominis plane block in gynecological laparoscopic surgeries
3. To compare the above two groups

MATERIALS AND METHODS -

Study Design – Cross sectional analytical study

Selection Of Cases– Patients willing to give consent and fulfilling the following inclusion criteria –

- ASA grade I or II patients
- Patients undergoing gynecological laparoscopic surgery
- Patients aged between 18 to 70 years
- Patients >65 kg
- Hemodynamically stable patients

Sample Size –

Total sample size was 50 with 25 participants each in group A and group B.

Method Of Collection Of Data –

Patients undergoing gynecological laparoscopic surgeries were included in the study, after obtaining clearance from the review board.

Methodology –

The aim of the TAP block is to deposit local anesthetic in the plane between the internal oblique and transversus abdominis muscle targeting the spinal nerves in the plane.

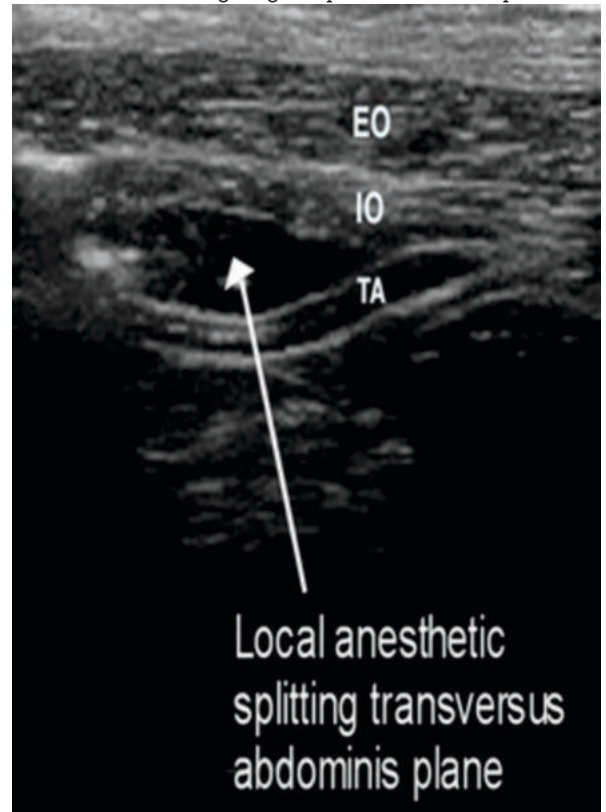


Figure 1

- With the patient supine, the skin was disinfected and the point of initial transducer placement identified by palpating the space between iliac crest and costal margin in mid axillary line.
- Once the transverse abdominal plane was identified, a slightly blunt needle was guided through the subcutaneous tissue, external oblique muscle and internal oblique muscle. After gentle aspiration, 1-2 ml of local anesthetic was injected to verify the location of the needle tip.

- After confirmation, group A patients were given 20ml of 0.25% Ropivacaine on each side and group B patients were given 20ml 0.5% Ropivacaine on each side following similar technique.
- Both the groups were evaluated on the basis of heart rate, blood pressure, pain by visual analog score (VAS) at 30 minutes, 2,4,6,12,24,48th hour post surgery and time of first analgesic demand.

Statistical Analysis –

TIME	GROUP A (n = 25)	GROUP B (n = 25)	p VALUE
0.5 hours	1.0 ± 0.3	1.0 ± 0.2	0.04
6 hours	2.2 ± 1.4	2.0 ± 1.0	0.05*
12 hours	2.4 ± 1.6	2.3 ± 1.1	0.04
24 hours	1.7 ± 0.9	1.1 ± 0.8	0.02
48 hours	1.0 ± 0.6	0.4 ± 0.5	0.01

Figure – 2 (on the basis of visual analog score)

* p value < 0.05 is significant

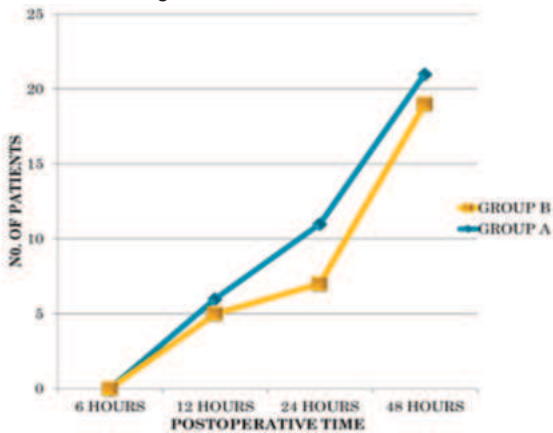


Figure – 3 (Time Of First Opioid Analgesic Demand)

Mean number of patients experiencing post operative pain according to visual analog score (VAS) in group A is significantly higher as compared to patients in group B. The p values are almost insignificant for 6 hours after surgery but are showing significant results after that.

Demand for opioid analgesics is more in patients of group A as compared to patients in group B.

DISCUSSION –

Previous Research	Previous Research Result	My Study Result
Mc Donnell et al.	TAP block with Ropivacaine decreased the pain score and 48hr morphine consumption for postoperative analgesia in cesarean delivery under spinal anesthesia	TAP block with 0.5% ropivacaine decreased pain score as compared to 0.25% ropivacaine in gynecological laparoscopic surgeries under general anesthesia
Sirvasta et al.	TAP block as a multimodal postoperative analgesia decreased pain score at all study times during rest and movement for cesarean delivery	TAP block as a multimodal postoperative analgesia decreased pain score as well decreased the analgesic requirement

Figure - 4

CONCLUSION -

According to the results of the study, TAP block played an important role in decreasing the pain score postoperatively. Post operative analgesia was of significantly longer duration for patients who received TAP block with 0.5% ropivacaine as compared to patients who received TAP block with 0.25% ropivacaine.

Analgesic requirement also decreased significantly in the group receiving 0.5% concentration of ropivacaine as compared to the one receiving 0.25% concentration with no significant side effects.

REFERENCES –

1. Ahmed Zein El Abdein Mohamed: Assessment of the analgesic potency of 0.2% versus ropivacaine 0.5% in transversus abdominis plane block after cesarean delivery, Egyptian journal of anaesthesia, 32:3, 385-390, DOI: 10.1016/j.egja.2016.03.003
2. Safoura Rouholamin, Ataollah Ghahiri, Banafesheh Dehghan Khalili: The efficacy of ropivacaine 0.5% in transversus abdominis plane block to relieve the postoperative pain of female laparoscopic surgery grade II, doi: 10.4103/abr.abr.46.20
3. McDonnell JG, O'Donnell B, Curley G, Heffernan A, Power C, Laffey JG ; The analgesic efficacy of transversus abdominis plane block after abdominal surgery ; a prospective randomized control trial. Anesth Analg. 2007; 104: 193-7
4. Ortiz J, Suliburk JW, Wu K, Bailard NS, Mason C, Minard CG, et al. : Bilateral transversus abdominis plane block does not decrease postoperative pain after laparoscopic cholecystectomy when compared with local anesthetic infiltration of trocar insertion sites. Reg Anesth Pain Med. 2012;37:188-92