

# Patient Satisfaction Stratification in Inguinal Hernia Surgery under Local Anesthesia – Tertiary Care Experience of 650 Patients

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## ABSTRACT

**Aim:** To evaluate patient satisfaction undergoing inguinal hernia surgery under local anesthesia.

**Methods:** The study was conducted in Jinnah hospital, Lahore from 2014 to 2019 including 650 clinically diagnosed patients with direct or indirect inguinal hernia with age ranging 20 to 60 years. All of these patients were operated in dedicated day care operation-theater of surgical department, where hernia surgeries under local anesthesia were done on daily basis 6 days a week. We assessed satisfaction in all patients undergoing inguinal hernia surgery with monitoring during anesthesia care known as Iowa satisfaction with small anesthesia scale.

**Results:** 80% of patients were between 20 to 45 years of age with male to female ratio 99: Right inguinal hernia patients were 55% and 45% with left inguinal hernia. In the proforma of 11 questionnaire, 96 % patients were found satisfied with the quality of anesthesia care with varying satisfactions ranging above 90 % regarding pain, feeling like throwing up, feeling relaxed as well as feeling hurt.

**Conclusion:** Inguinal hernia surgery under local anesthesia is found profoundly satisfactory with regard to anesthetic care. Local anesthesia hernial surgery has satisfactory patient acceptability similar to those observed in a conventional regional/general anesthesia in tertiary care setup.

**Keywords:** Inguinal hernia, local anaesthesia, satisfaction

## INTRODUCTION

Inguinal hernia repair is a common surgical procedure with significant pain and discomfort in the postoperative period. Millions of people are affected by inguinal hernias each year. The lifetime occurrence of inguinal or femoral hernias is 27-43% in men and 3-6% in women. There is no general consensus as to what is the optimal anesthetic technique for this procedure. Therefore inguinal hernia is indeed a major economic concern<sup>1</sup>.

Surgical management of inguinal hernia has undergone drastic transformation in the preceding few decades. Centroaxial blocks and general anesthesia are reliable techniques for peri-operative patient satisfaction, but may very rarely result in major complications as a result of damage to the spinal nerves or problems with circulation or respiration. Discharge from the hospital may be delayed because of nausea or pain after general anesthesia, although wound infiltration by the end of surgery with local anesthesia may improve the pain relief. After spinal or epidural anesthesia prolonged immobilization or urinary retention may cause delays. Dedicated local anesthesia techniques for inguinal hernia repair may be a good alternative, but the technique has to be carefully chosen to ensure adequate pain relief during the surgical procedure<sup>2</sup>.

Herniorrhaphy for inguinal hernia is the most commonly undergone procedure in whole world. It has been evolved from old methods to recent laparoscopic repairs. The most commonly used technique nowadays is mesh repair for the inguinal hernia. The recurrence rate is very less in new methods of surgeries and also the recovery is speedy and less side effects<sup>3</sup>.

There were many reports regarding the advantages of local anaesthesia over spinal anaesthesia. Their effects on long term and short term basis were evaluated and it was observed that local anaesthesia was easy to administer even without monitoring and it was cost effective and included high turnover of the patients<sup>4</sup>.

Local anesthesia technique of hernia repair is widely performed throughout the world. Even then it is not yet widely accepted worldwide, in spite of its benefits that outweighs the risks. Surgery as well as type of anesthesia can be tailored according to patient's variables like gender, age, type of hernia and comorbidities.

## METHODS

We evaluated total of 650 patients who underwent inguinal hernia repair under local anesthesia with Iowa Satisfaction with Anesthesia Scale (ISAS) proforma, all of them were operated in dedicated day care operation-theater of surgical department of Jinnah hospital Lahore, where hernia surgeries under local anesthesia were done on daily basis 6 days a week between February 2014 to January 2019 after permission from ethical committee. All patients underwent Lichtenstein tension free mesh hernioplasty.

Iowa Satisfaction with Anesthesia Scale (ISAS) containing proforma of 11 questions was used, all surgeries were performed by senior registrars of the unit. Local anesthesia consisting of 20ml of 2% lignocaine and 20 ml of bupivacaine diluted to 100 ml in total, infiltrated for ilio-inguinal nerve block and surgical site, achieved with infiltration of local anesthesia in each case. Anesthetist availability with non-invasive monitoring is ensured in all cases. Local anesthesia infiltrated as described, half an hour earlier than the start of surgery, in the day care ward and then patient is shifted to theater for surgery. A single dose of prophylactic antibiotic (ceftriaxone) is given half an

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hour ago. Each patient after surgery is requested to fill the proforma in the recovery (PACU) ward. All these proformas were evaluated to device the results.

## RESULTS

In our study, 55% patients presented with right inguinal hernia and 45% with left inguinal hernia. 80% of patients were between 20 to 45 years of age with male to female ratio 99:1. In Iowa Satisfaction with Anesthesia Scale (ISAS), a set of 11 questions was answered by each patient undergoing surgery. Each question with their percentage is answered as followed:

- Q 1: 93% of pts disagreed with the feeling of throwing up.  
 Q 2: 92% of patients agreed undergoing surgery having same anesthesia again.  
 Q 3: 93% of patients disagreed that this itched.  
 Q 4: 95% of patients agreed feeling relaxed.  
 Q 5: 94% of patients disagreed feeling pain.  
 Q 6: 92% of patients agreed feeling safe.  
 Q 7: 94% of patients disagreed feeling too cold or hot.  
 Q 8: 96% patients agreed feeling satisfied with anesthetic care.  
 Q 9: 95% patients disagreed feeling pain during surgery.  
 Q 10: 93% of the patients agreed that they felt good.  
 Q11: 95% of patients disagreed feeling hurt.

## DISCUSSION

Patient satisfaction and pain management is an essential component of the quality of life. It has an important role in anaesthesia as well specially in managing postoperative pain and other symptoms. These all count for established measures of satisfaction<sup>5</sup>.

Our study also yielded the result that 93% of the patients said that their quality of life has been improved.

Healthcare quality is a topic of interest these days and it has been included in the general system of every hospital in public reporting policies. So evaluation of the healthcare delivery system is added in the management policies of all the hospitals to provide the basic health care maximally to the population<sup>6</sup>.

The European Hernia Society (EHS) tried to always take into account the benefits and harms of the types of anaesthetics used for herniorrhaphies. So there are many studies showing the effectiveness and patient satisfaction about local anaesthesia. These guidelines are of equal importance and necessary for all the healthcare workers including doctors and other paramedical staff. Although their implication is based on the country and region where the guidelines are being implemented<sup>7</sup>.

In our setup, we used both types of anaesthesia techniques and we got the results that patients were more satisfied with the local anaesthesia as compared to spinal anaesthesia.

A prospective study in France was held to assess the effect of local anaesthesia for herniorrhaphy. It included 189 operated inguinal hernias and it showed that 48% of patients showed better results postoperatively in terms of micturition difficulties and postoperative pain. 44 patients were followed up after one month of this study and there was no recurrence at all<sup>8</sup>.

Our results also showed that 95% of patients agreed that they did not have pain during surgery and after surgery.

Similarly a study including meta-analysis and systematic reviews were done in 2017 in Ireland including the effect of local anaesthesia and comparison of local and spinal anaesthesia in herniorrhaphy patients. They included ten randomized controlled trials and total 1379 patients and the results were obtained that the operation time was same in both types of anaesthesia but the patients of local anaesthesia group had significantly lower pain during the procedure. Also they had lower chance of urinary retention and increased satisfaction with anaesthesia<sup>9</sup>.

A study done in India in 2019, showed the benefits of local anaesthesia in herniorrhaphy. It was a prospective controlled analysis and included 120 patients with unilateral inguinal hernia. They got the results that all the patients were of the view that local anaesthesia is reliable and safe. It was also observed that local anaesthesia is cost effective and also the waiting time for surgery was markedly reduced in planned surgeries<sup>10</sup>.

## CONCLUSION

Inguinal hernia surgery under local anesthesia is found profoundly satisfactory with respect to intra and post-operative pain, nausea and vomiting, feeling of wellbeing and satisfaction with regards to anesthetic care. Local anesthesia hernia surgery has satisfactory patient acceptability similar to those observed in a conventional regional/general anesthesia with clear added benefits of faster access to treatment especially in tertiary care setups and cost of hospitalization.

**Conflict of interest:** Nil

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