

Evaluation of Efficacy of Local and General Anaesthesia in Patients Undergoing Inguinal Hernia Repair

Manjula Muchhal¹, Ramesh Chand Maheshwari^{2*}

¹Principal Specialist (Anaesthesia), Mahatma Gandhi Hospital, Bhilwara, Rajasthan, India.

^{2*}Junior Specialist (Anaesthesia), Mahatma Gandhi Hospital, Bhilwara, Rajasthan, India.

ABSTRACT

Introduction: Inguinal hernias (IHR) account for 75% of abdominal wall hernias, with a lifetime risk of 27% in men and 3% in women. Inguinal hernias are often classified as direct or indirect. The present study was conducted compare the efficacy of local anaesthesia (LA) and general anaesthesia (GA) in patients of IHR.

Materials & Methods: The present study was conducted on 320 patients of IHR of both genders. Patients were divided into 2 groups of 160 each. Group I were operated under LA and group II were operated under GA. Parameters such as type of anaesthesia used, complications such as wound infection etc was noted.

Results: Group I and group II had 80 males and 80 females. The difference was non- significant (P= 1). Common complications were hematoma seen in 5 in group I and 6 in group II, Urinary infection seen in 2 in group I and 3 in group II, wound infection seen in 3 in group I and 5 in group II, post-operative hydrocele seen in 2 in group I and 3 in group II and recurrence seen in 2 in group I and 4 in group II. The difference was non- significant (P > 0.05). Types was direct (group I- 90,

group II- 60) and indirect (group I- 70, group II- 100). The difference was non- significant (P>0.05).

Conclusion: LA can be effectively used in the management of inguinal hernia. The less cost of the procedure, less pain and post-operative complications as compared to GA are few advantages.

Key words: Hydrocele, Inguinal Hernias, Local Anesthesia.

*Correspondence to:

Dr. Ramesh Chand Maheshwari,
Junior Specialist (Anaesthesia),
Mahatma Gandhi Hospital, Bhilwara, Rajasthan, India.

Article History:

Received: 16-10-2017, Revised: 02-11-2017, Accepted: 27-11-2017

Access this article online	
Website: www.ijmrp.com	Quick Response code 
DOI: 10.21276/ijmrp.2017.3.6.075	

INTRODUCTION

Abdominal wall hernias are common, with a prevalence of 1.7% for all ages and 4% for those aged over 45 years. Inguinal hernias (IHR) account for 75% of abdominal wall hernias, with a lifetime risk of 27% in men and 3% in women. Inguinal hernias are often classified as direct or indirect, depending on whether the hernia sac bulges directly through the posterior wall of the inguinal canal (direct hernia) or passes through the internal inguinal ring alongside the spermatic cord, following the coursing of the inguinal canal (indirect hernia).¹

Inguinal hernias present with a lump in the groin that vanishes with the application of the minimal pressure or when the patient is lying down. With the increase in the activity, the severity of the cases increases from mild to moderate to severe. A higher risk of irreducibility or incarceration is associated in patients with inguinal hernias. It may result in strangulation and obstruction; however, unlike with femoral hernias, strangulation is rare.²

A hernia is reducible if it occurs intermittently and can be pushed back into the abdominal cavity, and irreducible if it remains permanently outside the abdominal cavity. A reducible hernia is usually a longstanding condition, and diagnosis is made clinically,

on the basis of typical symptoms and signs. The condition may be unilateral or bilateral and may recur after treatment.³

Mode of anaesthesia in the patients undergoing IHR is topic of great interest. It has been quoted that local anaesthesia (LA) provides greater safety to the patients undergoing IHR in comparison to general anaesthesia (GA). At the same time, GA is also known to provide certain advantages over LA in same group of patients including better postoperative pain control and cost-effectiveness.⁴ The present study was conducted compare the efficacy of local anaesthesia (LA) and general anaesthesia (GA) in patients of IHR.

MATERIALS & METHODS

The present study was conducted in the department of Anaesthesia, Mahatma Gandhi Hospital, Bhilwara, Rajasthan, India.. It included 320 patients of IHR of both genders. All were informed regarding the study and written consent was obtained. Ethical clearance was taken from institutional ethical committee before starting the study. General information such as name, age, gender etc was recorded in case history performa.

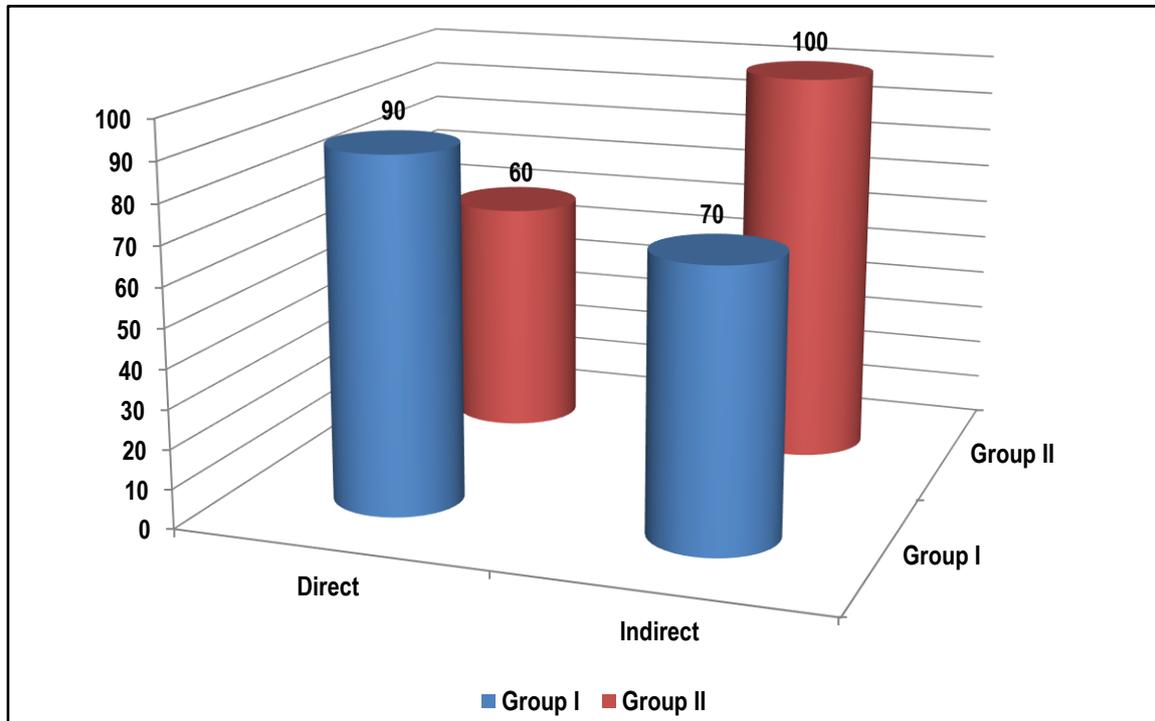
Patients were divided into 2 groups of 160 each. Group I were operated under LA and group II were operated under GA. Parameters such as ASA grade, type of anaesthesia used,

complications such as wound infection etc was noted. Results were subjected to statistical analysis using chi- square test. P value less than 0.05 was considered significant.

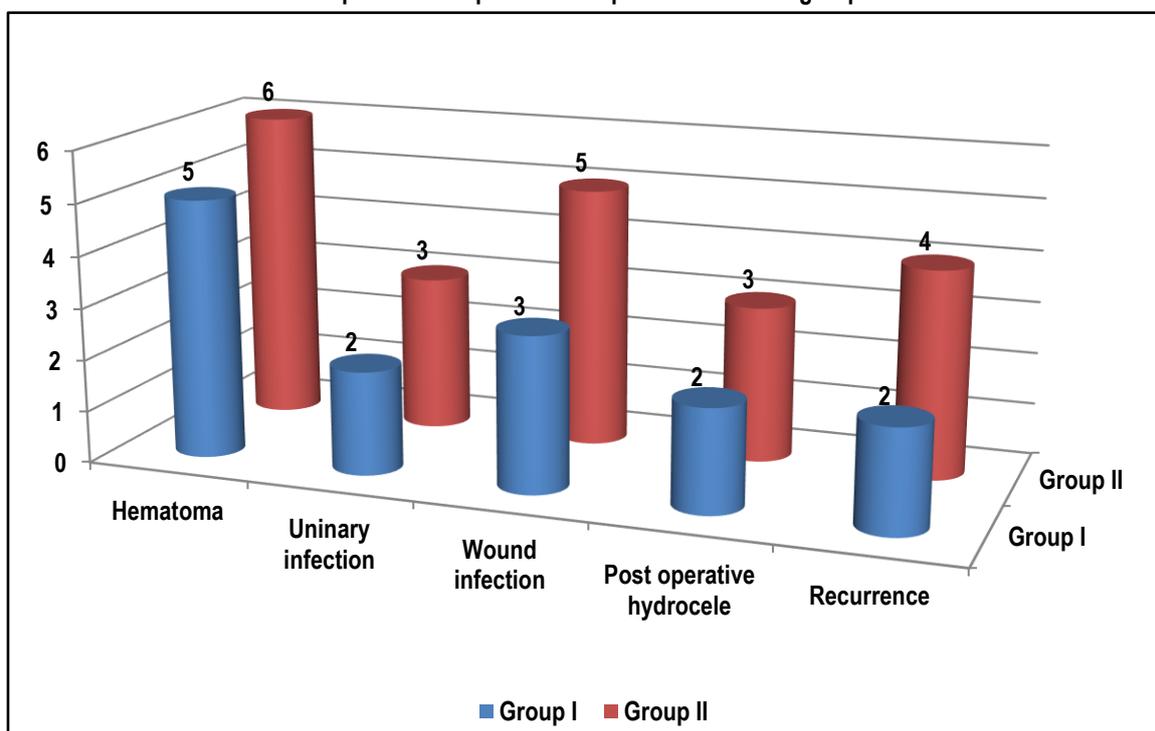
Table 1: Distribution of patients

Total- 320					P value
Group I		Group II			
Males	Females	Males	Females	1	
80	80	80	80		

Graph 1: Type of hernia



Graph 2: Post- operative complications in both groups



RESULTS

Table 1 shows that both groups, group I and group II had 80 males and 80 females. The difference was non-significant ($P < 0.05$). Graph 1 shows that types were direct (group I- 90, group II- 60) and indirect (group I- 70, group II- 100). The difference was non-significant ($P > 0.05$).

Graph 2 shows that common complications were hematoma seen in 5 in group I and 6 in group II, Urinary infection seen in 2 in group I and 3 in group II, wound infection seen in 3 in group I and 5 in group II, post-operative hydrocele seen in 2 in group I and 3 in group II and recurrence seen in 2 in group I and 4 in group II. The difference was non-significant ($P > 0.05$).

DISCUSSION

Patients with inguinal hernia treated with laparoscopic repair have less postoperative pain and fewer wound infections and return to normal activity and work sooner. However, in comparison to the other technique, open repair is cost effective and comparatively easier to perform. The most important outcome after inguinal hernia repair (IHR).⁵

Systematic review and meta-analysis of randomized clinical trials have found that, compared with open repair, laparoscopic surgery for hernia is associated with longer operation times but less severe postoperative pain, fewer complications, and a more rapid return to normal activities. Laparoscopic surgery is associated with higher recurrence rates during the learning curve but causes less chronic pain and numbness when assessed by questionnaire up to five years after operation.⁶

In this study, we found that both groups, group I and group II had 80 males and 80 females. Types were direct (group I- 90, group II- 60) and indirect (group I- 70, group II- 100). We observed that common complications were hematoma, urinary infection, wound infection, post-operative hydrocele and recurrence of lesion. This is similar to Amid et al.⁷

The Royal College of Surgeons of England guidelines on inguinal hernia repair in 1993 suggested that at least 30% of inguinal hernia repairs should be performed as day-case procedures. LA was first introduced at the very beginning of the last century and was successfully used in Lichtenstein hernia institute and Shouldice Hospital. Since then it has gained popularity and is used worldwide. It is the most suitable anesthesia for elderly patients with co-morbidities. It is economical, can be performed as a day care surgery with less post-operative pain. LA is used in special hernia clinics but it is still not common in teaching hospitals.⁸

Very few surgeons prefer doing hernia under local anaesthesia, probably because of the fear of intra operative pain and the availability of comfortable operating conditions for the surgeon. In a prospective study, Kulacoqlu et al⁹ showed that younger age, large hernias, omental mass in the sac, and duration of operation are the factors affecting the dose of local anaesthesia.

Another advantage of LA is that patient can cough to increase intra abdominal pressure. This will allow the surgeon to evaluate the defect intra-operatively and also check the strength of the repair, thus reducing the failure rate.

CONCLUSION

LA can be effectively used in the management of inguinal hernia. The less cost of the procedure, less pain and post-operative complications as compared to GA are few advantages.

REFERENCES

1. Callesen T. Inguinal hernia repair: anaesthesia, pain and convalescence. *Dan Med Bull* 2003; 50(3): 2003-18.
2. Anderson F H, Neilsen k, Kehlet H. Combined inguinal blockade and local infiltration anaesthesia for groin hernia repair- a double blind randomized study *Br.J. Anaesth* 2005; 94(4):520-3.
3. Jolon AM Meyer –bech D, Rosa AD, Marcos AG, Inguinal hernia repair under local anaesthesia, evaluation of intra operative discomfort. *Br J Surg* 1995; 82: 100-2.
4. Callesen T, Bech K, Kehlet H. One thousand consecutive groin hernia repairs under unmonitored local anaesthesia. *Anesth analg* 2001;93:1373.
5. Sanjay P, Woodward A. Inguinal Hernia Repair: Local or General Anaesthesia? *Annals of The Royal College of Surgeons of England*. 2007; 89(5):497-503.
6. Young DV. Comparison of local, spinal and general anaesthesia for inguinal hernia repair. *Am J Surg* 1987;153:560-3.
7. Amid PK et al. Local anaesthesia for inguinal hernia repair step by step procedure. *Ann Surg* 1994; 220: 735-7.
8. Cheek CM, Black NA, Devlin HB. Groin hernia surgery: a systematic review. *Ann R Coll Surg*. 2010; 2:45-51.
9. Kulacoglu H, Ozyaylali I, Yazicioqlu D. Factors determining the dose of local anesthetic agent in unilateral inguinal hernia repair. *Hernia* 2009; 13(5): 511-6.

Source of Support: Nil. **Conflict of Interest:** None Declared.

Copyright: © the author(s) and publisher. IJMRP is an official publication of Ibn Sina Academy of Medieval Medicine & Sciences, registered in 2001 under Indian Trusts Act, 1882.

This is an open access article distributed under the terms of the Creative Commons Attribution Non-commercial License, which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

Cite this article as: Manjula Muchhal, Ramesh Chand Maheshwari. Evaluation of Efficacy of Local and General Anaesthesia in Patients Undergoing Inguinal Hernia Repair. *Int J Med Res Prof*. 2017 Nov; 3(6):357-59.
DOI:10.21276/ijmrp.2017.3.6.075