



Research Article

EVALUATION OF POST OPERATIVE PAIN AND SEROMA IN PATIENTS OF VENTRAL HERNIA REPAIR

Revelli Ashok and Sahai R N*

Department of Surgery North Delhi Municipal Corporation Medical College & Hindu Rao Hospital, Delhi, India

ARTICLE INFO

Article History:

Received 12th October, 2018

Received in revised form 23rd

November, 2018

Accepted 7th December, 2018

Published online 28th January, 2019

Key words:

Ventral hernia, Laparoscopy surgery, Open surgery, Pain, Seroma,

ABSTRACT

Introduction: Ventral hernia repair is a common surgical procedure. The incidence ranges from 2% to 20% and varies greatly from one series to another. Most ventral hernias require some sort of repair which may be done laparoscopically or by open method. Laparoscopic surgery has often been considered as less painful and with lower incidence of seroma formation than similar open surgery, but this is not the case in ventral hernia repair. The use of titanium tacks for mesh fixation in LVHR is the most likely explanation of postoperative pain as this fixation technique can cause bleeding, hematoma, nerve injury. The objective of this study is to evaluate occurrence of pain and seroma in patients with ventral hernia repair by open or laparoscopic method.

Methods: This prospective study was conducted on 200 patients between August 2015 to July 2016 who underwent Open or Laparoscopic ventral hernia repair at North Delhi Municipal Corporation Medical College & Hindu Rao Hospital, Delhi. The sample size was calculated using the formula for proportions with 95% confidence level $P = 0.5$. Outcome is based on patient self-reported registrations using Visual Analogue Scales at 6 hours after hernia repair, Day1, Day2, Day 3, at discharge. Seroma formation measured on day 2 postoperatively with transabdominal ultrasound scan (USG).

Results: Of the 173 patients in open group, 82 (47.39%) patients had incisional hernia. Making it the most common type of hernia. Of 27 patients in laparoscopy group, 11 (40.74%) had umbilical hernia, making it the most common VH. The overall complication rate in open group was 44.08% while in laparoscopy group it is 22.2%. All patients had post-operative pain till 6 hrs. after surgery but the incidence of pain in LVH repair decreased significantly after day 1 as compared to open repair. Postoperative seroma too was more common in open group contributing to 27.74% compared to laparoscopy group which accounts to 14.81%. Other complications such as wound infection and post-operative ileus too were more in open group (30.05%) compared to laparoscopy group (22.2 %).

Conclusion: Laparoscopic ventral hernia repair has shown more promising results and has a clear advantage over open repair in regard with reduced post-operative pain, decreased post-operative complications, reduced length of hospital stay and less seroma formation. Hence, laparoscopic ventral hernia repair is a safe and feasible alternative to open repair.

Copyright©2019 Revelli Ashok and Sahai R N. This is an open access article distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

INTRODUCTION

A ventral hernia is defined as a fascial defect in the anterior abdominal wall through which any abdominal viscera protrudes. Primary ventral hernias are classified as umbilical, para umbilical, epigastric, Spigelian and lumbar hernias, while Secondary ventral hernias are incisional hernias which develop in postoperative scars.¹ Ventral hernia repair is a common surgical procedure. The incidence ranges from 2% to 20% and varies greatly from one series to another.²

Most ventral hernias are small umbilical and epigastric hernias, but around 30 % of the procedures are incisional hernia repairs and half of these are performed laparoscopically.

Laparoscopic surgery has often been considered as less painful than similar open surgery, but this is not the case in ventral hernia repair. There are many complications associated with laparoscopic repair of VH. Intense pain after LVHR is common and remains a challenge.³ Seroma is another most common complications after laparoscopic ventral hernia repair although its real clinical incidence is variable since it has been described in the literature following different parameters. So this study was conducted to assess the incidence of pain and seroma formation together with any other complication in open and LVHR.

METHODOLOGY

Study setting: This prospective study was conducted on 200 patients from August 2015 to July 2016 at North

*Corresponding author: **Sahai R N**

Department of Surgery North Delhi Municipal Corporation Medical College & Hindu Rao Hospital, Delhi, India

DelhiMunicipal Corporation Medical College & Hindu Rao Hospital, Delhi.

The sample size was calculated using the formula for proportions with 95% confidence level $P = 0.05$.⁴

Data collection: All the patients are evaluated by proper history and detailed physical examination. Data collected by proforma. All the patients underwent the routine blood investigations together with ultrasound abdomen to know the size number of defects, contents and any other abdominal pathology

Statistical analysis: Data was analysed using statistical package for social sciences (SPSS) Version 16.0. Numerical data was summarised by mean \pm standard deviation for continuous normal data and median \pm Inter-Quartile Range for continuous non normal data/ordinal data. Categorical data was summarised by count and percentages. The association between categorical variables was done by Chi square test. All the P values less than 0.05 were considered as statistically significant

Inclusion Criteria

- Elective, primary and recurrent laparoscopic umbilical and epigastric hernia repair with mesh reinforcement
- Elective, primary and recurrent laparoscopic trocar-site hernia
- Patients between 18-80 years

Exclusion Criteria

- Expected low compliance (language problems, dementia and abuse etc.).
- Acute operation [strangulated hernia, obstructed hernia operated in emergency]
- Chronic pain syndrome
- Decompensated liver cirrhosis (Child-Pugh B-C)
- Patients with a stoma
- Infected mesh
- Epidural catheter in postoperative period

Outcome was based on patient self-reported registrations using Visual Analogue Scales at 6 hours after hernia repair, Day1, Day2, Day 3, at discharge. Seroma formation measured on day 2 postoperatively and on discharge with transabdominal ultrasound scan (USG).

RESULTS

Of the 173 patients in open group, 19 (10.98%) had epigastric hernia, 23 (13.29%) had umbilical hernia, 49 (28.3%) had para umbilical hernia and 82 (47.39%) patients had incisional hernia thus incisional hernia was the most common type in open group. Of 27 patients in laparoscopy group, 2 (7.4) had epigastric hernia, 11 (40.74%) had umbilical hernia, 8 (29.62%) had paraumbilical hernia and 6 (22.22%) had incisional hernia thus umbilical hernia was the most common hernia in laparoscopy group. The sex and age distribution in both open and laparoscopy group were similar with a p value of >0.05 which statistically not significant. Most of the patients in open group required spinal anesthesia contributing to 65.89%, remaining patients needed both spinal and epidural contributing to 32.36% and very less number of patients required general anesthesia contributing to 1.73% in contrast to laparoscopy in which all patients (100%) required general

anesthesia. The mean duration of surgery in open group was 84.48 ± 27.54 minutes while in laparoscopy group it was 90.00 ± 21.88 The P value being >0.05 , which is statistically not significant. The overall complication rate in open group was 44.08% while in laparoscopy group it is 22.2%. All patients in open and laparoscopic group had pain 6hrs after surgery. As the postoperative day increased pain according to VAS, subsided rapidly in laparoscopic group and not so in open group, with no pain at discharge in laparoscopic group (0%) compared to little number of patients (5.78%) with pain in open group Overall complications were more in open group accounting to 30.05% compared to laparoscopy group which accounts only to 22.2%. Seroma was the most common complication in both open and laparoscopy groups but seroma rates were more in open group when compared to laparoscopy group. Other complications were wound infections and post-operative ileus. Most of the patients in open group (46.82%) were discharged by 6 to 10 days whereas in laparoscopy group (74.07%) were discharged in 1 to 5 days.

DISCUSSION

The mean age (46.54 yrs. - open and 45.04 yrs. -lap) and sex (female preponderance) distribution in this study were similar to other studies. All the studies except Misra *et al*⁵ concluded that length of hospital stay was less in laparoscopy group compared to the open group³. Present study also concluded the same. Comparison of duration of stay showed mixed results that is open being shorter in some studies like Holzman *et al*⁶, Misra *et al*⁵ but laparoscopic being shorter in Ramshaw *et al*⁷, Pring *et al*⁸, & Arsencio *et al*⁹. This study too shows duration of surgery is shorter in Open as compared to Lap.

All studies as well as this study showed that Postoperative complications were more in open group compared to laparoscopic group.

Postoperative infections as well as Seroma formation was more in open group compared to laparoscopic group in all other studies as well as in this study.

CONCLUSION

Laparoscopic ventral hernia repair has shown promising results and has a clear advantage over Open repair as there reduced post-operative pain, decreased post-operative complications such as seroma formation and reduced length of hospital stay. Hence, laparoscopic ventral hernia repair is a safe and feasible alternative to open repair. Of course Laparoscopic repair always required general anesthesia which along with equipment results in higher cost.

Bibliography

1. Daniel T. Dempsey, Andrew s.Klein, John h.Pemberton, Jeffrey H.Peters, sheclke fold's surgery of alimentary tract, vol 1, 6th ed. Elsevier saunders. 2007.
2. Le Huu Nho R¹, Mege D, Ouaiissi M, Sielezneff I, Sastre B. Incidence and prevention of ventral incisional hernia. J Visc Surg. 2012 Oct; 149(5 Suppl):e3-14. doi: 10.1016/j.jvisurg.2012.05.004. Epub 2012 Nov 9.
3. Mudge, Harding KG. Incisional hernia British Journal of Surgery. 1986; 73:82.
4. Glen D. Fact sheet PEO6-6 Florida Cooperatie extension service, Nov 1992;3: Table2

5. Misra MC, Bansal VK, Kulkarni MP, Pawar DK. Comparison of laparoscopic and open repair of incisional and primary ventral hernia: results of a prospective randomized study. *Surg Endosc.* 2006 Dec;20(12):1839-1845
6. Holzman MD, Purut CM, Reintgen K, *et al.* Laparoscopic ventral and incisional hernioplasty. *Surg Endosc.* 1997; 11:32-35.
7. Ramshaw BJ, Esartia P, Schwab J, *et al.* Comparison of laparoscopic and open ventral herniorrhaphy. *Am Surg.* 1999; 65:827-832.
8. Pring CM, Tran V, O'Rourke N, *et al.* Laparoscopic versus open ventral hernia repair: A randomized controlled trial. *ANZ J Surg.* 2008;78:903-906.
9. Asencio F, Aguilo J, Peiro S, *et al.* Open randomized clinical trial of laparoscopic versus open incisional hernia repair. *Surg Endosc.* 2009; 23:1441-1448.

How to cite this article:

Revelli Ashok and Sahai R N (2019) 'Evaluation of Post Operative Pain And Seroma In Patients of Ventral Hernia Repair', *International Journal of Current Advanced Research*, 08(01), pp. 16892-16894.
DOI: <http://dx.doi.org/10.24327/ijcar.2019.16894.3142>
