DOI: https://doi.org/10.53350/pjmhs22163318

ORIGINAL ARTICLE

An Overview of Institutional Experience of General Surgeons of Laparoscopic Splenectomy in Khyber Teaching Hospital, Peshawar

AHMAD ZARKA[1], MOHAMMAD ZARIN[1], KHALID FURQAN[2], KHAN SHAHZEB[2]
[1]Medical Officer Khyber Teaching Hospital, Peshawar
[1]Professor SCW, Department of Surgery, Khyber Teaching Hospital, Peshawar
[2]Resident SCW, Department of Surgery, Khyber Teaching Hospital, Peshawar
Correspondence to: Ahmad Zarka, Email: zarkaahmad90@gmail.com, Cell: 03469023225

ABSTRACT

Aim: An Overview of Institutional Experience of General Surgeons of Laparoscopic Splenectomy in Khyber teaching hospital, Peshawar

Methodology: A descriptive KAP (knowledge attitude and practice) study was conducted in Khyber teaching hospital (KTH) from February 2021 to March 2021. Experience of only those General Surgeons, who have performed both Open and Laparoscopic Splenectomies was included in the study. Data was collected through a self –administered questionnaire and a total of eleven faculty members of our surgical department qualified to be a part of the study.

Results: Eleven consultants of our surgical department qualified to be a part of the study. In the category of intra-operative complications, 8(72.7%) designated it as an optimum method of hemostasis, 9(81.8%) experienced no iatrogenic injury, 7(63.6%) never converted laparoscopic to an open splenectomy. Among post-operative complications, hemorrhage was witnessed only by 3(27.3%) while 8(72.7%) never had a patient with the mentioned complication. Wound Infection, post-operative ileus and post splenectomy sepsis were experienced only by 2(18.2%) participants and 9(81.8%) had not received patients with such complications. 8(72.7%) surgeons favored use of this technique for easy identification and removal of accessory spleen. 7(63.6%) participants had a consensus on it being a safe and easy method for specimen retrieval. In post-operative recovery, 9(81.8%) patients had a hospital stay of 2 days while 10(90.9%) observed an early activity resumption. A total of 8(72.7%) General Surgeons preferred Laparoscopic Splenectomy.

Conclusion: The study showed that majority of the surgeons preferred use of Laparoscopic Splenectomy.

Keywords: Splenectomy, Laparoscopy, Hemostasis

INTRODUCTION

Splenectomy was for the first time performed in the year 1826 by Quittenbaum. After that it has become the primary procedure used for removal of spleen in numerous hematological disorders[1]. In 1991, the world was first time introduced to the procedure of Laparoscopic Splenectomy which later on was described my many authors in the subsequent year[2,3,4]. Over the period of time, Laparoscopic Splenectomy has seen a drastic increase in the number of cases performed and has now become a gold standard in the elective surgical set up. Like other laparoscopic procedures, it also has the advantages of improved visual field, anatomical view, early post -operative recovery, decreased post procedure pain, a low complication rate and better cosmesis of incision sites[5,6].

Laparoscopic Splenectomy is a safe surgical option, but the results may have an influence by factors such as surgeon experience, the number of procedures performed annually and the hospital or centres where the patients underwent the operation[5,6]. In the present era, it is the standard surgical procedure performed for benign hematological conditions[7]. Laparoscopic splenectomy is a relatively new technique in our hospital, Khyber Teaching Hospital being introduced a few years back. Surgeons are still having difficulty in reaching the peak of their learning curve. It has now been considered as a standard technique and is on way to replace open splenectomy. The primary aim of our study is to have an overview and share the experience of surgeons working in our institution with Laparoscopic Splenectomy and their opinion in terms of it being a preferable and a standard technique over open procedure. We also wanted to share their experience in terms of patient satisfaction.

METHODOLOGY

A descriptive KAP (knowledge attitude and practice) study was conducted in Khyber teaching hospital (KTH) from February 2021 to March 2021. To conduct the study a formal permission was obtained from Hospital Director and Chairman of Department of Surgery, Khyber Teaching Hospital, Peshawar. The experience of only those surgeons who have performed both Open and Laparoscopic splenectomies was included in the study. Faculty of Department of Surgery comprising Professors, Associate and Assistant professors of all wards with above mentioned specifications have been made a part of the study. Demographic details of consultants and the ward labels were not included. Experience of consultants of all the cases performed with Laparoscopic technique of patients both male and female above age of 5yrs diagnosed with benign hematological disorders, splenic abscess, cysts were a part of the inclusion criteria of the study.

Patients with splenic trauma, malignancy and those who underwent open procedure and splenectomy as a component of other procedures were not overviewed.

During the above mentioned time period experience of the surgeons was collected through a self –administered questionnaire which consisted questions regarding intraoperative complications (Hemostasis, Iatrogenic injury, number of cases converted to open), post- operative complications (Hemorrhage, wound infection and post -operative ileus),easy identification and removal of accessory spleen, safe and easy specimen retrieval, energy device used (Harmonic or Liga sure), hospital stay, resumption of activity, post splenectomy sepsis, patient satisfaction and surgeon preference in open vs laparoscopic splenectomy. The demograhpic data comprised of age and gender. Operative time and splenic size were also the included components. A total of eleven faculty members of our surgical department qualified to be a part of our study.

RESULTS

Among the 17 faculty members, only 11 consultants of the surgical department qualified to be a part of the study. In the category of intra-operative complications, 3(27.3%) surgeons were of the opinion that laparoscopy gives a good hemostatic control while 8(72.7%) designated it as an optimum method of hemostasis. 9(81.8%) had experienced no iatrogenic injury but 2(18.2%) had witnessed the complication of iatrogenic injury. Out of 11 consultants, 7(63.6%) never converted laparoscopic splenectomy to open splenectomy while 2(18.2%) had converted less than 5 cases and 2(18.2%) more than 5 cases to open technique.

In post-operative complications, hemorrhage was witnessed only by 3(27.3%) general surgeons and 8(72.7%) never had a patient with the above mentioned complication. Wound Infection, post-operative ileus and post splenectomy sepsis were

experienced only by 2(18.2%) participants of the study. And 9(81.8%) had not received any patients with such complications.

The frequency of surgeons who favored the use of laparoscopic technique for easy identification and removal of accessory spleen were 8(72.7%) and 3(27.3%) did not agree with it. In the context of specimen retrieval, 7(63.6%) participants had a consensus on laparoscopic technique being a safe and easy method for the removal of specimen, 4(36.4%) did not agree that it is an easy and safe method for the removal of spleen.

In the section of early post-operative recovery, 9(81.8%) patients had a hospital stay of only 2 days. Further in this context, a hospital stay of 4 days and 1 week was only experienced by 1(9.1%) surgeons separately. 10(90.9%) participants had observed an early activity resumption with only 1(9.1%) was not of this opinion and experienced a late initiation of activity. Patient satisfaction was observed by a frequency of 9(81.8%) surgeons with 2(18.2%) were of the opinion that their patients were not satisfied with laparoscopic technique.

A total of 8(72.7%) General Surgeons preferred Laparoscopic Splenectomy. Among 11 consultants performing splenectomy 2(18.2%) favoured open splenectomy while 1(9.1%) agreed to the fact that both procedure techniques are equally good.

The frequency of consultants who preferred the use of liga sure over harmonic scalpel were 7(63.6%) respectively. 4(36.4%) surgeons preferred harmonic scalpel as an energy device to be used in Laparoscopic Splenectomy.

Table 1: Showing the experience in terms of Intra-Operative Complications

Intra-Operative Complications				Total
Hemostasis	Good 3(27.3%)	Optimum 8(72.7%)		11(100%)
Iatrogenic Injury	Yes 2(18.2%)	No 9(81.8%)		11(100%)
Conversion to Open Splenectomy	No 7(63.6%)	Less than 5cases 2(18.2%)	More than 5cases 2(18.2%)	11(100%)

Table 2: Showing experience in context of Post-Operative complications

	Hemorrhage	Wound Infection	Ileus	Post Splenectomy Sepsis
Yes	3(27.3%)	2(18.2%)	2(18.2%)	2(18.2%)
No	8(72.7%)	9(81.8%)	9(81.8%)	9(81.8%)
Total	11(100%)	11(100%)	11(100%)	11(100%)

Table 3: Shows the Accessory Spleen (easy identification and removal) and (safe and easy) Main Specimen Retrieval

	Accessory Spleen (Easy Identification and Removal)	Main Specimen Retrieval (Safe and Easy)
Yes	8(72.7%)	7(63.6%)
No	3(27.3%)	4(36.4%)
Total	11(100%)	11(100%)

Table 4: Shows the effect on Early Post-Operative Recovery

Early Recovery				Total
Hospital Stay	2 days 9(81.8%)	4 days 1(9.1%)	1 week 1(9.1%)	11(100%)
Activity Resumption	Early 10(90.9%)	Late 1(9.1%)		11(100%)
Patient Satisfaction	Satisfied 9(81.8%)	Not Satisfied 2(18.2%)		11(100%)

Table 5: Showing the Preferable Surgical Procedure and Energy Device Used

Preference of Surgical technique and Use of Energy Device				Total
Surgeon Preference	Open 2(18.2%)	Laparoscopic 8(72.7%)	Both 1(9.1%)	11(100%)
Energy Device	Harmonic Scalpel 4(36.4%)	Liga Sure 7(63.6%)		11(100%)

DISCUSSION

Before laparoscopic era conventional splenectomy was the only procedure for spleen removal and was reserved for only those hematological pathologies who were having poor response to medical therapy. It was 1991 when first Laparoscopic splenectomy was performed[8] after which it quickly replaced conventional open surgery because of having reduced complications and excellent recovery[9,10]. Because of these results now the threshold for splenectomies in patients of hematological disorders have been reduced[11] and hence laparoscopic technique is considered as gold standard procedure for them[12,13] specially in young adults because of cosmesis issues.

The current study gives an overview of the institutional experience of General Surgeons working in Khyber Teaching Hospital, Peshawar with respect to the technique of Laparoscopic Splenectomy. A total number of eleven consultants from the faculty of the surgical department were a part of the study. The results of the study depicts that most of the surgeons preferred Laparoscopic Splenectomy as a standard procedure over conventional open technique, because of decreased intra and post -operative complications, early recovery and an optimum patient satisfaction. Participants also agreed to a certain extent that laparoscopy has aided in identification, removal of accessory spleen and easy or safe retrieval of spleen. Ligasure was the favoured energy device used.

The study of Adrian E. Park et al also showed similar results in terms of a decreased peri-operative and post-operative complications, decreased hospital stay on average of 2.7days, safe retrieval of specimen and is a feasible approach for removal to be used for a range of hematological pathologies[14].

Another study by Clare J Pattenden et al had a similar experience with Laparoscopic Splenectomy. Mean hospital stay was 3days, conversion rate to open procedure was only 2.1%, satisfactory identification and excision of accessory spleen, specimen retrieval, decreased post-operative and intra-operative complications[15].

Dorota Radkowiak et al showed in his study and agreed that Laparoscopic Splenectomy has reduced post -operative morbidity and there was a significant decline in perioperative complications over the period of time. The overall conversion rate to open technique was 3%[7].

CONCLUSION

The current study enlightens the view of General Surgeons on the use of Laparoscopic Splenectomy. The study showed that majority of the Surgeons were of the opinion that Laparoscopic Technique is a safe and standard method to perform splenectomy.

Conflict of Interest: The author didn't find any conflict of interest regarding the current study.

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