



Frequency of Incidental Findings on Diagnostic Laparoscopy in Patients Undergoing Elective Laparoscopic Cholecystectomy

**Nazia Khatoon Soomro¹, Sandesh Kumar^{1*}, Karim Bux Bhurgri¹,
Ahmed Hussain Pathan¹ and Altaf Ahmed Talpur¹**

¹Liaquat University of Medical and Health Sciences, LUMHS JAMSHORO, Pakistan.

Authors' contributions

This work was carried out in collaboration among all authors. Authors NKS and SK were involved in conception of idea and study design. Authors KBB and AHP did data collection and performed bench work. Author AAT performed the statistical analysis. Author AHP managed the literature searches. All authors read and approved the final manuscript.

Article Information

DOI: 10.9734/JPRI/2021/v33i31A31789

Editor(s):

(1) Dr. Giuseppe Murdaca, University of Genoa, Italy.

Reviewers:

(1) Giuseppe Brisinda, Fondazione Policlinico Universitario A Gemelli, IRCCS, Italy.

(2) Vito Terlizzi, Anna Meyer Children's University Hospital, Italy.

Complete Peer review History: <http://www.sdiarticle4.com/review-history/69971>

Original Research Article

Received 06 April 2021

Accepted 10 June 2021

Published 11 June 2021

ABSTRACT

Objective: To determine the frequency of incidental findings on diagnostic laparoscopy in patients undergoing elective laparoscopic cholecystectomy at tertiary care hospital Jamshoro.

Study design: This is a descriptive cross sectional study.

Setting: Study carried out at department of general surgery, Liaquat University of Medical & Health Sciences (LUMHS) Jamshoro from 1st February 2019 to 30th July 2019.

Materials and methods: A total of 164 patients of both gender undergoing diagnostic laparoscopy in patients of laparoscopic cholecystectomy were included in the study. Laparoscopy was done under general anesthesia in all patients. The whole of peritoneal cavity was sequentially visualized using trendelenberg and reverse trendelenberg positions, and right or left tilt as required.

Results: Age range in this study was from 20 to 79 years with mean age of 43.622±9.31 years. 40.2% patients were of male gender and 59.8% patients were females. Peritoneal band & adhesions was seen in 9.8% patients, Ovarian Cyst 5.5%, Abdominal Tuberculosis 19.5% and Gall

*Corresponding author: E-mail: SandeshKumarlumhs@gmail.com;

Bladder Carcinoma was 3%.

Conclusion: We conclude that laparoscopy is very safe, can obviate the need for a full exploratory laparotomy & minimize the surgical trauma in chronically ill patients.

Keywords: Laparoscopic cholecystectomy; Diagnostic laparoscopy; Incidental findings.

1. INTRODUCTION

Laparoscopy is a gold standard keyhole surgery, it is low risk minimally invasive procedure accepted since last two decades. First time used in 1910 on human by Hans Christian Jacobean. Diagnostic laparoscopy mostly used for the management of acute abdomen. It is considered both an excellent therapeutic and diagnostic. Nowadays most of the abdominal emergencies are routinely been managed successfully by laparoscopy. In acute cholecystitis, cholelithiasis, acute appendicitis, perforated duodenal ulcer, and abdominal tissue biopsy, cancer staging, and in undiagnosed chronic abdominal pain, randomized controlled trials have proven that the laparoscopic approach is as safe and as effective surgery [1-3].

Histopathological evaluation of gallbladder specimens is an important step in confirmation of clinical and radiological diagnoses, & can have a role in litigation so its evaluation considered being routine in most surgical units various studies in Pakistan have quoted incidental gall bladder cancer with the frequency of 6- 28% in patients with gallstone disease [4,5]. In another report of five year study 2007-2012 mentioned 1982 patients were taken for study undergone elective laparoscopic cholecystectomy, 10 patients [0.5%] diagnosed as gall bladder cancer after histopathology report .majority were female with M:F= 2:8 .The mean age of occurrence was 73.6 years [6].

Most people diagnosed with Saint's triad are reportedly women aged >60 years. Therefore, when a patient has these risk factors, some of the four above-mentioned diseases may appear simultaneously [4]. There is another case report supporting incidental findings with 2 signs of saint's triad, hiatal hernia, cholelithiasis, and an incarcerated De Garengeot's hernia. Like many other cases of De Garengeot's hernias, the patient presented atypically and was not diagnosed pre operatively. In fact, it was only discovered upon routine examination of her abdomen during laparoscopic cholecystectomy [7]. Madhwani et al. study published in 2016 in medical science journal according to this

published study a total of 20512 patients were collected during the study period for prevalence of ovarian cysts , out of this 816 female found positive ovarian cysts in the study population was 4.0% [8]. Other than this tuberculosis is also reported common major health problem in developing countries at 40.45%. Abdomen is the next common site after lungs which may lead to the dynamic bowel obstruction with incidence of 21.76% [9-10]. We are share our experience with the most common of incidental findings in our population.

2. MATERIALS AND METHODS

This is a descriptive cross sectional study conducted in general surgery departments of tertiary care Liaquat University of Medical & Health Sciences (LUMHS) Jamshoro, from 1st February 2019 to 30th July 2019. Patients having age 20-79 years, either male/female, ultrasound abdomen diagnose gallstones were included in study. All cases undergoing diagnostic laparoscopy in patients of laparoscopic cholecystectomy. Obstructive jaundice on ultrasound (when the ultrasound shows a mass, usually in conjunction with dilated bile ducts and along with the serum bilirubin level > 50 mg/L with laboratory test), pregnant women on ultrasound, H/o hypertension on medical record, H/o diabetes on medical record and gall stone pancreatitis on ultrasound were excluded from study. All diagnostic laparoscopy were done in patients undergoing elective laparoscopic cholecystectomy by surgeons having >5 years of experience. Incidental findings was noted by researcher herself on especially designed preformed.

3. RESULTS

Age range in this study was from 20 to 79 years with mean age of 43.622±9.31 years as shown in Table 1. 40.2% patients were of male gender and 59.8% patients were females as shown in Table 1. Incidental Finding during Procedure were peritoneal band & adhesions was seen in 9.8% patients, Ovarian Cyst 5.5%, Abdominal Tuberculosis 19.5% and Gall Bladder Carcinoma in 3% as shown in Table 1. Incidental Finding

during procedure compared in age groups we were found mostly 3rd and 4th decay of life, While findings were more common in females (Tables 2 and 3).

4. DISCUSSION

The incidence of gall bladder carcinoma was 3% found in this study. An international study conducted by Samad, reported an incidence of gall bladder malignancy was 1.1% in those patients who underwent cholecystectomy due to chronic cholecystitis with cholelithiasis [11]. The majority of patients in our study were given a previous history of chronic cholecystitis, and there were no signs or symptoms of malignancy in any of the patients. Many authors suggest that ultrasonography has the least accuracy in the study of progression and early gallbladder cancer [12,13]. The authors suggest a different approach to the history of the gallbladder.

Darmas et al also made similar observations and recommendations in the study [14]. Byarset al. [15] suggested that advanced age and female sex combined with the data from radiological investigations, intra-operative macroscopic findings and the clinical picture of the patient could further increase the accuracy of the selective criteria. Our analysis confirmed the association between age and the risk of unexpected findings.

Moreover in my study Peritoneal band & adhesions was seen in 9.8% patients, Ovarian Cyst 5.5% and Abdominal Tuberculosis was 19.5%. Madhwani et al. study published in 2016 in medical science journal according to this published study a total of 20512 patients were collected during the study period for prevalence of ovarian cysts , out of this 816 female found positive ovarian cysts in the study population was 4.0% [8].

Table 1. Patient's characteristic (n-164)

Variable	Patients	Percentage
Age in years (Means Age 43.622±9.31 years)		
• 20 – 45	95	57.92%
• 46 – 79	69	42.07%
Gender		
• Male	66	40.2%
• Female	98	59.8%
Incidental Finding during Procedure		
• Peritoneal band & adhesions	16	9.8%
• Ovarian Cyst	9	5.5%
• Abdominal Tuberculosis	32	19.5%
• Gall Bladder Carcinoma	5	3%

Table 2. Incidental findings according to age (n-164)

Incidental findings	Age		P value
	20-45 years	46-79 years	
	Patients(%)	Patients(%)	
• Peritoneal band & adhesions	12(12.6%)	4(5.8%)	0.145
• Ovarian Cyst	6(6.3%)	3(4.3%)	0.585
• Abdominal Tuberculosis	19(20%)	13(18.8%)	0.853
• Gall Bladder Carcinoma	3(3.2%)	2(2.9%)	0.924

Table 3. Incidental findings according to gender (n-164)

Incidental findings	Gender		P value
	Male	Female	
	Patients(%)	Patients(%)	
• Peritoneal band & adhesions	9(13.6%)	7(7.1%)	0.169
• Ovarian Cyst	0(0%)	9(9.2%)	0.011
• Abdominal Tuberculosis	14(21.2%)	18(18.4%)	0.652
• Gall Bladder Carcinoma	1(1.5%)	4(4.1%)	0.349

Other than this tuberculosis is also reported common major health problem in developing countries at 40.45%. Abdomen is the next common site after lungs which may lead to the dynamic bowel obstruction with incidence of 21.76 [9]. In a study by Saxena P, et al. has showed that frequency of Abdominal tuberculosis was 40.35%, peritoneal band & adhesions 10.52% and ovarian cyst was 19.29% on diagnostic laparoscopy [10]. Shah FO and his associates has showed in another study that the frequency of incidental gallbladder carcinoma was 4% following cholecystectomy for symptomatic gall stone [16]. Tuberculosis most common in developing countries included Pakistan. In our study was observed tuberculosis of abdomen in 19.5% cases associated with chronic abdominal pain. Some international studies Mallik et al reported 72% cases and Al-Akeely MH in 45.71% cases were also reported abdominal tuberculosis was common cause of chronic abdominal pain [17,18]. On laparoscopy 16 patients (9.8%) were found to have adhesions and bands as the cause of chronic abdominal pain. So diagnostic laparoscopy that goes beyond imaging studies includes tuberculosis, nodules, minimal ascites, bands and adhesion. And they found these findings to be clinically important. So it is clear that laparoscopy provides an opportunity for the surgeon to look and see rather than rely on indirect means to presume about the surgical pathology. It also simultaneously provides tissue and ascitic fluid for all important evidence of historical identification and complete testing for tuberculosis.

5. CONCLUSION

Laparoscopy is entirely safe, may blench the need because a completed exploratory laparotomy & decrease the surgical trauma of chronically ill patients. Early diagnosis with the help of laparoscopy allows for the start of treatment with patient benefits and savings in the health care system.

CONSENT AND ETHICAL APPROVAL

As per international standard or university standard written ethical approval has been collected and preserved by the author(s). Informed consent was taken from patient's relative.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

REFERENCES

1. Navez B, Navez J. Laparoscopy in the acute abdomen. *Best Pract Res CliGastroenterol.* 2014;28(1):3-17.
2. Shrestha R, Tiwari M, Ranabhat S, Aryal G, Rauniyar S, Shrestha H. Incidental gallbladder carcinoma: value of routine histological examination of cholecystectomy specimens. *Nepal Med Coll J.* 2010;12(2):90-4.
3. Suleman B. Outcomes of laparoscopic cholecystectomy in the elderly versus young patients. *Pak J Med Health Sci.* 2012;6(3):544-6.
4. Yamanaka T, Miyazaki T, Kumakura Y, Honjo H, Hara K, Yokobori T, et al. Umbilical hernia with cholelithiasis and hiatal hernia: a clinical entity similar to Saint's triad. *Surg Case Rep.* 2015;1(1):65.
5. Moosa F, Sultan N, Ahmed S, Hafeiz M. Incidence of carcinoma of gallbladder discovered on routine histopathology after cholecystectomy for cholelithiasis. *Med Channel.* 2002;8:15-6.
6. Ghannam WM, Elbeshry TMAS, Malek JR, Emarra ES, Alzahrany ME, Alqarni AA, et al. Incidental gallbladder carcinoma in laparoscopic cholecystectomy: five years local experience. *Elect Med J.* 2014;2(2):47-5.
7. Hayakawa E, Hackett T. Incidental finding of incarcerated De Garengeot hernia during laparoscopic cholecystectomy. *Case Stud Surg.* 2015;1(1):26.
8. Mandiwa C, Shen LJ, Tian YH, Song LI, Xu GQ, Yang SY, et al. Parity and risk of ovarian cysts: cross-sectional evidence from the Dongfeng-Tongji cohort study. *J HuazhongUnivSci Tech.* 2016;36(5):767-71.
9. Khan M, Shah SA, Ali N. Pattern of dynamic intestinal obstruction in adults. *J Postgrad Med Inst.* 2014;19(2):25-30.
10. Saxena P, Saxena S. The role of laparoscopy in diagnosis of abdominal tuberculosis. *Int Surg J.* 2016;3 :1557-63.

11. Samad A. Gall bladder carcinoma in patients undergoing cholecystectomy for cholelithiasis. *J Pak Med Assoc.* 2005;55:497–9.
12. Siddiqui FG, Memon AA, Abro AH, et al. Routine histopathology of gallbladder after elective cholecystectomy for gallstones: waste of resources or a justified act? *BMC Surg.* 2013;13:26.
13. Delis S, Bakoyiannis A, Madariaga J, et al. Laparoscopic cholecystectomy in cirrhotic patients: the value of MELD score and ChildPugh classification in predicting outcome. *SurgEndosc Other Interv Tech.* 2010;24:407–12.
14. Darmas B, Mahmud S, Abbas A, et al. Is there any justification for the routine histological examination of straightforward cholecystectomy specimens? *Ann R CollSurg Engl.* 2007;89:238–41.
15. Byars JPD, Pursnani K. An alternative approach to sending all gallbladders for histology following cholecystectomy? *Surg Sci.* 2012;3:15–20.
16. Abassi A, Qasmi SA, Ghafoor A, Kiani F, Abassi H. Frequency of carcinoma gallbladder in cases of cholelithiasis undergoing cholecystectomy at tertiary care hospital. *Rawal Med J.* 2012;37(4):406-8.
17. Malik AM, AltafHussain TK. Yield of diagnostic laparoscopy in abdominal tuberculosis: is it worth attempting? *Surgical Laparoscopy, Endoscopy and Percutaneous Techniques.* 2011;21(3): 191-3.
18. Sayed ZK, Verma RA, Madhukar KP, Vaishampayan AR, Kowli MS, Vaja C. Role of Diagnostic Laparoscopy in Chronic Abdominal Pain. *Int J Sci Stud.* 2015;3(4):31-5.

© 2021 Soomro et al.; This is an Open Access article distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Peer-review history:
The peer review history for this paper can be accessed here:
<http://www.sdiarticle4.com/review-history/69971>