



## RESEARCH ARTICLE

### STUDY OF HISTOPATHOLOGY OF GALLBLADDER AFTER CHOLECYSTECTOMY

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#### ABSTRACT

**Introduction:** This study is aimed at finding the incidence of IGBC in RIMS, Ranchi. This will help us to lay down guidelines for histological examination of gallbladder specimen after cholecystectomy.

**Material and methods:** 120 Gall-bladders obtained after cholecystectomy in study population was sent for histopathological examination. HPE reports were analyzed and documented.

**Result and conclusion:** In our study 2.5% cases of cholecystectomy were diagnosed as incidental carcinoma of gallbladder. Based on the findings it can be concluded that all GB specimens should be sent for HPE examination after cholecystectomy.

## INTRODUCTION

Cholecystectomy is the surgical removal of the gallbladder. Cholecystectomy is a common treatment of symptomatic gallstones and many other gallbladder conditions (Abraham, 2014). Gallbladder cancer is a relatively uncommon cancer. The residents of Indo-Gangetic belt particularly females of northern India and south Karachi, Pakistan have been reported as one of the highest affected population worldwide (Randi, 2006). Transabdominal ultrasound, CT scan, endoscopic ultrasound, MRI, and MR cholangio-pancreatography (MRCP) can be used for diagnosis of Gallbladder cancer (GBC). A biopsy is the only certain way to tell whether gallbladder tumor is malignant or not (Kaye, 2007). GBC can be clinically obvious, an unexpected finding at laparotomy, detected incidentally on histological examination or may be missed only to present with recurrence during follow-up (Kapoor, 2006). Although the overall prognosis of GBC is poor, incidental gallbladder cancer (IGBC) is associated with better outcomes because these are generally diagnosed at early stage (Targarona, 1994 and Shrestha, 2010).

Resection is the most effective and only potentially curative treatment (Kaye, 2007). Histopathological examination of resected gallbladder after every cholecystectomy is not routinely performed in many hospitals of india. This study is aimed to find the incidence of IGBC in RIMS, Ranchi which may help us to lay down guidelines for histological examination of gallbladder specimen after cholecystectomy.

## MATERIAL AND METHODS

This prospective study was carried out at the Department of general Surgery, Rajendra Institute of Medical Sciences (RIMS), Ranchi, Jharkhand, India; over a period of one year from may 2017 to april 2018.

- The study population consists of 120 cases of gallstone disease who underwent cholecystectomy (laparoscopic / open).

#### Exclusion Criteria

- Pediatric age group
- Associated pathology affecting any part of biliary tree
- other than GB

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- Preoperatively diagnosed case of gall bladder carcinoma
- All subjects were explained about the study and their written consent was taken for their participation in the study.
- Preoperative baseline routine investigations, liver function test and ultrasonography of abdomen were carried out in all subjects.
- Gallbladder obtained after surgery in each case was sent for histopathological examination.
- Patient particulars, preoperative investigation findings and histopathological examination findings in each case were recorded in a data collection sheet.
- Statistical analysis was done using *IBM SPSS Statistics 23* software.

## RESULTS

\*In our study total 120 patients underwent Cholecystectomy. Out of 120; 75 were female and 45 were male.

**Table 1. Sex distribution of study population**

Sex	Male	Female	Total
Number of patients	45 (37.5%)	75 (62.5%)	120

\*Mean age of patients was 26.98 years with standard deviation of 9.07 years. Cases were divided in 4 age groups. A maximum of 58 patients included in our study were from 20-30 years age group, 45 were in 30-40 years age group, 11 were in >40 years age group and 6 were in <20 years age group.

**Table 2. Age distribution of study population**

Age groups	Number of patients
<20 years	6 (5%)
20-30 years	58 (48.3%)
30-40 years	45 (37.5%)
>40 years	11 (9.1%)

\*PAIN ABDOMEN was present in all the 120 cases. Second most common complaint was SENSE OF ABDOMINAL FULLNESS found in 70 cases and NAUSEA AND VOMITING was present in 46 cases

**Table 3. Presenting complain in study population**

Chief complains	Number of patients
Pain	120(100%)
Abdominal fullness	70 (58.3%)
Nausea and vomiting	46 (38.3%)

\*In this study histopathological examination showed features of chronic cholecystitis in 100 (83.3%) cases, feature suggestive of acute cholecystitis in 16 (13.3%) cases, gall bladder polyp without evidence of malignancy was found in 1 (0.8%) case and features of gallbladder malignancy was seen in 3 (2.5%) cases. All gallbladder malignancy cases were adenocarcinoma of gallbladder.

**Table 4. Histopathological examination report of gallbladder specimen**

Histopathology	Number of patients
Chronic cholecystitis	100 (83.3%)
Acute cholecystitis	16 (13.3%)
Gallbladder polyp	1 (0.8%)
Malignancy	3 (2.5%)

## DISCUSSION

Gallbladder cancer is a malignancy of biliary tract which is infrequent in developed countries but common in some specific geographical regions of developing countries (Diehl, 1980). It is usually detected at an advanced stage with an overall 5-year survival of less than 5% (C.H. Eric Lai, 2008). In our study all three cases of incidental GB carcinoma were found in female patients belonging to >40 years age group. In study done by *Furlan A et al* also Female gender and advanced age were found as the predisposing demographic risk factors for gallbladder carcinoma (Furlan, 2008). Early-stage gallbladder carcinoma cases are associated with good prognosis but the preoperative detection of surgically curable cases is difficult (Kapoor, 2006). In this study all three cases of gallbladder carcinoma could not be diagnosed preoperatively or intraoperatively. Only after histopathological examination the diagnosis was made. The incidence of IGBC has been reported to range from 0.3–2.85% in various series.<sup>4,15</sup> In study done by *Shrestha R et al* The rate of incidental primary carcinoma of gallbladder was 1.4%, detected commonly at stage I. (Shrestha, 2010) in study done by *Volkan GENÇ et al* rate of incidental gallbladder cancer diagnosis was found to be 0.09% (Volkan, 2011). Indian authors *Aditi Raina et al* in their study found that.

The incidence of IGBC was 0.6% (Aditi Raina Malay Bajpai, 2016). In our study the incidence of IGBC came out to be 2.5%. Many studies do not recommend routine HPE in all cholecystectomy specimens (Dix, 2003 and Oommen, 2007). The reasons given are that the incidence of IGBC is too low to justify routine HPE and routine HPE of all cholecystectomy specimens overburdens pathology department and hospital resources. In contrast many authors suggest that routine histological examination of every gallbladder specimen should be done after cholecystectomy (Anil, 1994 and Faisal, 2013). In present study the authors are of the opinion that all GB specimen should be sent for HPE examination after cholecystectomy.

## Conclusion

In our study 2.5% cases of cholecystectomy were diagnosed as incidental carcinoma of gallbladder. Based on this study conclusion can be drawn that every specimen of gallbladder after cholecystectomy should be sent for histopathological examination. This practice can identify those cases of IGBC and early detection can reduce GBC associated morbidity and mortality.

## REFERENCES

- Abraham, S., Rivero, H.G., Erlikh, I.V., Griffith, L.F., Kondamudi, V.K. 2014. "Surgical and nonsurgical management of gallstones". *American Family Physician*. 89 (10): 795–802.
- Aditi Raina Malay Bajpai, Indubhushan. 2016. "Incidental Gallbladder Carcinoma-A Retrospective Study". *IOSR Journal of Dental and Medical Sciences (IOSR-JDMS)* e-ISSN: 2279-0853, p-ISSN: 2279-0861. Volume 15, Issue 2 Ver. VIII, PP 114-116
- Anil, K. Agarwal, Raja Kalayarasan, Shivendra Singh, Amit Javed and Puja Sakhuja. 2012. "All cholecystectomy specimens must be sent for histopathology to detect inapparent gallbladder cancer". *HPB*, 14, 269–273.

- Diehl AK. 1980. "Epidemiology of gallbladder cancer: a synthesis of recent data". *J Natl Cancer Inst* 65:1209–1214.
- Dix, F.P., Bruce, I.A., Krypczyk, A., Ravi, S. 2003. "A selective approach to histopathology of the gallbladder is justifiable". *Surgeon* 1:233–235.
- Eric Lai, C.H., Lau. W.Y. 2008. "Gallbladder cancer — A comprehensive review" April, Volume 6, Issue 2, Pages 101–110
- Faisal, G. Siddiqui, Ahmer A Memon, Arshad H Abro, Nazeer A Sasoli and Lubna Ahmad. 2013. "Routine histopathology of gallbladder after elective cholecystectomy for gallstones: waste of resources or a justified act?". *BMC Surgery*, 13:26
- Furlan, A., Ferris, J.V., Hosseinzadeh, K., Borhani, A. 2008. "Gall-bladder carcinoma update: multimodality imaging evaluation, staging, and treatment options". *AJR Am J Roentgenol.*, 191: 1440-7.
- Kapoor, V.K. 2006. "Gallbladder cancer: A global perspective". *J Surg Oncol.* 93:607–9.
- Kaushik, S.P. 2001. "Current perspectives in gallbladder carcinoma". *J Gastroenterol Hepatol.*, 16:848–854.
- Kaye, M. Reid, Antonio Ramos-De la Medina, John H. Donohue. "Diagnosis and Surgical Management of Gallbladder Cancer: A Review". *Journal of Gastrointestinal Surgery*. May, 11:671.
- Lazcano-Ponce, E.C., Miquel, J.F., Munoz, N., Herrero, R., Ferrecio, C., Wistuba, II, et al. 2001. "Epidemiology and molecular pathology of GBC- CA". *CA Cancer Journal for Clinicians.*, 51:349–364.
- Mori, T., Souda, S., Hashimoto, J., et al. 1997. "Unsuspected gallbladder cancer diagnosed by laparoscopic cholecystectomy: a clinicopathological study". *Surg Today* 27: 710-3.
- Oommen, C.M., Prakash, A., Cooper, J.C. 2007. "Routine histology of cholecystectomy specimens is unnecessary". *Ann R Coll Surg Engl* 89:738.
- Randi, G., Franceschi, S., La, Vecchia, C. 2006. "Gallbladder cancer worldwide: geographical distribution and risk factors". *Int J Cancer.*, 118:1591–1602.
- Shrestha, R., Tiwari, M., Ranabhat, S.K., Aryal, G., Rauniyar, S.K., Shrestha, H.G. 2010. "Incidental gallbladder carcinoma: value of routine histological examination of cholecystectomy specimens". *Nepal Med Coll J.*, June; 12(2):90-4.
- Targarona, E.M., Pons, M.J., Viella, P., Trias, M. 1994. "Unexpected carcinoma of the gallbladder, a laparoscopic dilemma". *Surg Endosc* 8:211–213.
- Volkan GENÇ, Elvan ONUR Kirimker, Cihangir Akyol, Akın Fırat Kocaay, Ayça Karabörkacar Tüzüner, Esra Erden, Kaan Karayalçın. 2011. "Incidental gallbladder cancer diagnosed during or after laparoscopic cholecystectomy in members of the Turkish population with gallstone disease". *Turk J Gastroenterol.* 22 (5): 513-516

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