



Incidental Gallbladder Carcinoma: How Often Do We Find It After Cholecystectomy for Gallstone Disease?

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Introduction

- Incidental gallbladder carcinoma (IGBC) is an uncommon but clinically important finding after cholecystectomy for presumed benign gallbladder disease.
- Early identification of high-risk patients may allow prompt management and improve outcomes.
- Local data on IGBC frequency and its clinicopathological correlates remain limited in the Pakistani population.

Objectives

- Determine the frequency of incidental gallbladder carcinoma in cholecystectomy specimens performed for gallstone disease.
- Identify the clinicopathological factors associated with the diagnosis of incidental gallbladder carcinoma.

Methods

- Descriptive cross-sectional study;** Dept. of Surgery, Ayub Teaching Hospital, Abbottabad; Jan–Jun 2026.
- Ethical approval obtained (Code: RC-EA2025-205); informed consent taken from all participants.**
- Sample size: **181 adults** (18–65 y) calculated using Cochran's formula; $n = Z^2 \times p \times (1 - p) / d^2$, consecutive sampling technique followed.
- Inclusion Criteria:**Adults (18–65 y), of either gender undergoing 4 ports standard laproscopic cholecystectomy for gallstones with available complete clinical radiological and histopathological record.
- Exclusion Criteria:** Preoperatively suspected/diagnosed gallbladder carcinoma, pregnant females , bleeding disorders, gallbladder specimen not submitted for histopathology, incomplete clinical or histopathological records.
- SPSS v26; Chi-square / Fisher's exact test; $p \leq 0.05$ significant.

Study Snapshot

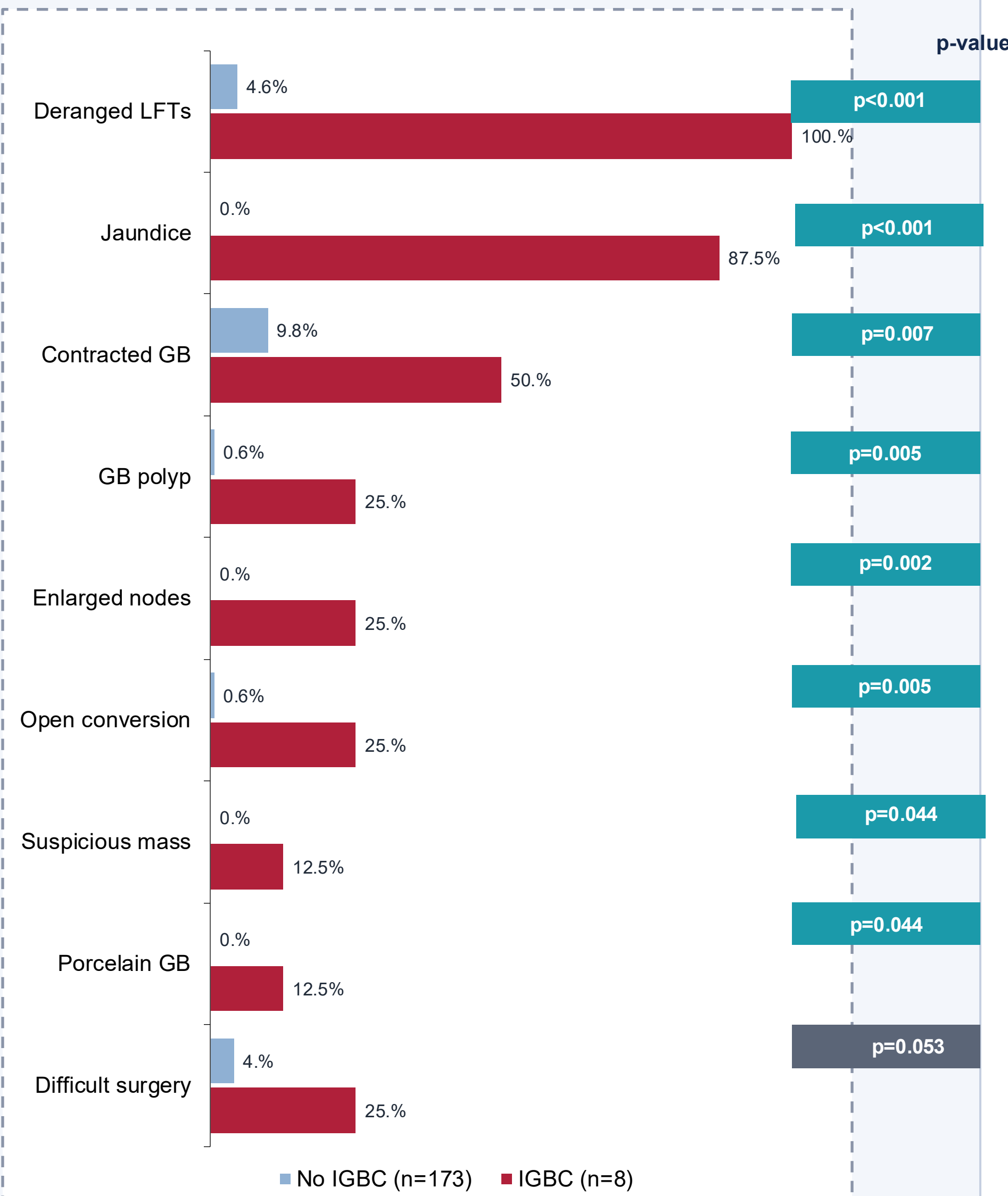
181	8	173
Patients	IGBC (4.4%)	No IGBC (95.6%)

Median age 46.0 y • Female 58.6% • Median BMI 27.18 kg/m²

Demographic factors (age, sex, BMI) were not significantly associated with IGBC ($p>0.05$).

Results

- Of 181 patients (median age 46.0 years; 58.6% female; median BMI 27.18 kg/m²), incidental gallbladder carcinoma was identified in 8 (4.4%) on histopathology.
- Demographic factors were not significantly associated with IGBC ($p>0.05$).
- Jaundice, deranged LFTs, suspicious gallbladder mass, contracted gallbladder, gallbladder polyp, porcelain gallbladder, enlarged lymph nodes and conversion to open surgery were all significantly associated with IGBC (Figure 1, Table 1).



GB = gallbladder; LFTs = liver function tests. Fisher's exact test.

Factor	IGBC, n (%)	No IGBC, n (%)	p-value
Jaundice	7 (87.5%)	0 (0%)	0.001
Deranged LFTs	8 (100%)	8 (4.6%)	0.001
Suspicious GB mass (USG)	1 (12.5%)	0 (0%)	0.044
Contracted GB (USG)	4 (50.0%)	17 (9.8%)	0.007
Gallbladder polyp (USG)	2 (25.0%)	1 (0.6%)	0.005
Porcelain GB (USG)	1 (12.5%)	0 (0%)	0.044
Difficult cholecystectomy	2 (25.0%)	7 (4.0%)	0.053
Enlarged lymph nodes	2 (25.0%)	0 (0%)	0.002
Conversion to open surgery	2 (25.0%)	1 (0.6%)	0.005

Table 1. Clinicopathological factors associated with incidental gallbladder carcinoma. (Fisher's exact test).

Discussion

- IGBC Frequency vs. Previous Studies**
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- IGBC frequency of 4.4% is higher than reports from Turkey (0.1%), Nepal (0.39%) and India (2%), and comparable to a previous Pakistani study (4%).
 - Median age (46 y) and female predominance (58.6%) are consistent with prior reports that symptomatic gallstone disease chiefly affects middle-aged women. 6 out of 8 patients had Tis and 2
 - Of the 8 patients with incidental gallbladder carcinoma, 6 (75%) had Tis and 2 (25%) had T1 disease. All patients received counseling and were discussed through a multidisciplinary team (MDT) for further management.
 - Findings support routine histopathological examination of all gallbladder specimens, since incidental carcinoma may otherwise go undetected.
 - Limitations:** single-centre design, and cross-sectional design limit generalizability.
 - Strengths:**Real-world tertiary-care data, reflecting the local burden of incidental gallbladder carcinoma.
 - Clinically relevant outcome: Highlights the importance of histopathological examination in detecting occult gallbladder carcinoma that may not be suspected preoperatively.

Conclusion

- Incidental gallbladder carcinoma was detected in 8/181 patients (4.4%) undergoing cholecystectomy.
- These findings emphasise careful preoperative assessment, intraoperative vigilance and thorough histopathology to detect occult gallbladder malignancy.
- ### Recommendations
- Routine histopathological examination of all cholecystectomy specimens should be maintained to detect clinically unsuspected gallbladder carcinoma.
 - Patients with incidental gallbladder carcinoma should undergo prompt stage-based evaluation and multidisciplinary hepatobiliary referral for further management.
 - Larger sample size and multicenter studies should be done.
 - Such cases should be discussed routinely in MDT .

Early detection saves lives

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