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ОСЛОЖНЕНИЯ ХОЛЕЦИСТЭКТОМИИ И ИХ ХИРУРГИЧЕСКОЕ ЛЕЧЕНИЕ: РЕТРОСПЕКТИВНЫЙ АНАЛИЗ 42 ПАЦИЕНТОВ

Аннотация: *В статье проанализированы постоперационные осложнения холецистэктомии у 42 пациентов многопрофильной клиники Ферганского медицинского института общественного здоровья. Сравниваются открытый и лапароскопический доступы. Выявлены ведущие осложнения и обоснованы оптимальные стратегии их хирургической коррекции.*

Ключевые слова: *холецистэктомия, постоперационные осложнения, желчевыводящие пути, лапароскопия, открытая операция, хирургическое лечение.*

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POSTOPERATIVE COMPLICATIONS OF CHOLECYSTECTOMY AND THEIR SURGICAL MANAGEMENT: A RETROSPECTIVE ANALYSIS OF 42 PATIENTS

Abstract: *This retrospective study examined postoperative complications of cholecystectomy in 42 patients at the multidisciplinary clinic of the Fergana Medical Institute of Public Health. Open and laparoscopic approaches were compared. Predominant complication types were identified and evidence-based surgical management strategies were defined.*

Keywords: *cholecystectomy, postoperative complications, biliary tract, laparoscopy, open surgery, surgical management.*

INTRODUCTION

Cholecystectomy — surgical removal of the gallbladder — remains the gold-standard treatment for symptomatic cholelithiasis, acute cholecystitis, and biliary dyskinesia. Globally, more than 750,000 cholecystectomies are performed annually in the United States alone, with comparable prevalence in Central Asian populations where dietary factors predispose to high rates of gallstone disease [1, 2]. The widespread adoption of laparoscopic cholecystectomy (LC) since the 1990s has substantially reduced overall morbidity; however, the procedure is not free of complications. Reported complication rates range from 2% to 15% for laparoscopic and from 5% to 20% for open cholecystectomy (OC), depending on patient comorbidity burden, surgical experience, and institutional setting [3].

The aim of this study was to identify the spectrum and frequency of postoperative complications following cholecystectomy and to evaluate current surgical management strategies applied at the FMIOPH multidisciplinary clinic.

MATERIALS AND METHODS

A retrospective cohort analysis was conducted on 42 patients who underwent elective or urgent cholecystectomy at the multidisciplinary clinic of FMIOPH between January 2022 and December 2023. Patients were stratified by operative approach: open cholecystectomy (OC, n = 20) and laparoscopic cholecystectomy (LC, n = 22). Inclusion criteria were confirmed cholelithiasis or acute cholecystitis on preoperative ultrasound, age ≥ 18 years, and complete medical records. Exclusion criteria included concurrent hepatic or pancreatic resection and incomplete documentation.

RESULTS

Of the 42 patients analysed, 20 (47.6%) underwent OC and 22 (52.4%) underwent LC. Mean age was 48.3 ± 12.7 years (OC) versus 44.1 ± 10.9 years (LC); female predominance was observed in both groups (70% OC; 68.2% LC).

Overall, 26 complications were documented across all patients (OC: n = 20 events; LC: n = 6 events), yielding a complication rate of 100% versus 27.3% respectively ($p < 0.001$).

Table 1 presents the demographic and clinical characteristics of the two groups. Figure 1 illustrates the complication profile by type and surgical approach.

Table 1. Demographic and postoperative complication profile by surgical approach

Parameter	**Open Cholecystectomy (n = 20)**	**Laparoscopic Cholecystectomy (n = 22)**
Mean age (years)	48.3 ± 12.7	44.1 ± 10.9
Female, n (%)	14 (70%)	15 (68.2%)
Acute cholecystitis, n (%)	12 (60%)	9 (40.9%)
Bile duct injury, n (%)	2 (10%)	1 (4.5%)
Wound infection, n (%)	6 (30%)	2 (9.1%)
Port-site / incision bleeding, n (%)	5 (25%)	1 (4.5%)
Biloma / bile leak, n (%)	3 (15%)	1 (4.5%)
Conversion to open, n (%)	N/A	3 (13.6%)
Post-operative ileus, n (%)	4 (20%)	1 (4.5%)
Hospital stay, days (mean)	7.4 ± 2.1	3.2 ± 1.4

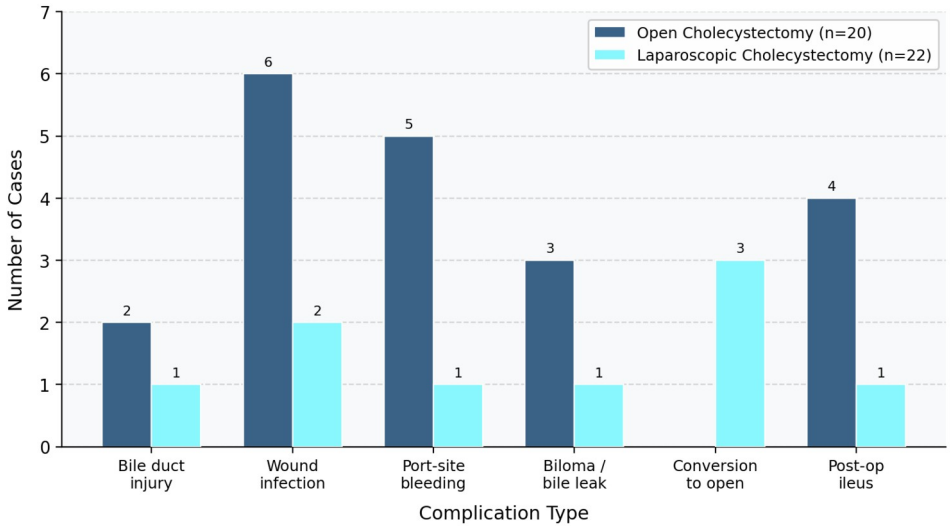

Figure 1. *Distribution of postoperative complications by type and surgical approach*

Wound infection was the most frequent complication in the OC group (30%), consistent with the larger incision required [4]. Bile duct injury occurred in 2 OC patients (10%) versus 1 LC patient (4.5%). Conversion from LC to OC was required in 3 patients (13.6%), primarily due to dense pericholecystic adhesions and unclear anatomy at Calot triangle. Mean hospital length of stay was significantly shorter in the LC group (3.2 ± 1.4 days versus 7.4 ± 2.1 days; p = 0.003).

DISCUSSION

The complication profile observed in the present study largely reflects published benchmarks for both operative approaches. The higher overall complication rate in the OC group is attributable to the extent of tissue dissection, prolonged anaesthesia time, and greater wound exposure — factors well-documented in the literature [5]. Laparoscopic cholecystectomy conferred a statistically significant reduction in wound-related morbidity and shorter hospitalisation, reinforcing its role as the preferred technique.

Bile duct injury, though infrequent, represents the most clinically consequential complication of cholecystectomy, often necessitating biliary reconstruction or hepaticojejunostomy [3, 6]. In the two OC cases identified,

successful management was achieved via primary duct repair with T-tube drainage. The single LC bile duct injury was managed by immediate conversion and biliary reconstruction. Early intraoperative recognition through critical view of safety technique remains paramount.

Wound infections in the OC group were managed conservatively with targeted antibiotic therapy guided by wound culture; all resolved within 14 days. Bilomas detected on postoperative day 3–5 were drained percutaneously under ultrasound guidance, consistent with current evidence-based protocols [7]. Conversion to open surgery, while not a complication per se, represents an intraoperative risk-mitigation decision and underscores the importance of patient selection and pre-operative planning.

CONCLUSION

This retrospective study of 42 patients demonstrated that laparoscopic cholecystectomy is associated with significantly lower complication rates and shorter hospital stays compared to open cholecystectomy at the FMIOPH multidisciplinary clinic. Wound infection and biloma were the predominant complications in the OC group, while conversion to open surgery was the principal challenge in the LC group. Systematic application of the critical view of safety, prompt intraoperative imaging, and standardised postoperative surveillance protocols are essential to further reduce morbidity. Regional audit programmes are warranted to monitor surgical outcomes across Uzbekistan.

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