Don’t Drop the Stones: A 15-year Experience of Dropped Gallstone Complications at a Single Institution

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BACKGROUND

- Gallstone spillage occurs between 3-19% of minimally invasive cholecystectomies.
- Case reports in the literature suggest long term abscess formation, pain complications, and additional healthcare burden well after the index procedure.
- Little is known about the long term sequelae and financial costs of these complications.

METHODS

- Retrospective case series analysis.
- Patients with gallstone complications were identified among AMC surgeons from 2006 to 2021.
- Albany Medical Center(AMC), 700-bed hospital institution
- EMR financial cost information of patients and procedures that were available.

RESULTS

- Total of 10 patients
- 80% Laparoscopic cholecystectomies, 20% open
- Time from index surgery to presentation ranged from 1 month to 16 years(mean 4.8 years)
- Average of 3.5 procedures and 2.6 operations after initial cholecystectomy.

Table 1. Patient Demographics

Mean Age(years)	69.4
Gender(% of male patients)	80%
Mean Body Mass Index(BMI)	31
ASA greater than 3(%)	80%
Diabetes Mellitus(%)	40%
Tobacco Use(%)	10%
Anticoagulation/ Anti-platelet use(%)	70%
Steroids use (%)	10%

Table 2. Index Operation Details

Indication for surgery	
Symptomatic stones	40%
Infectious etiology	50%
Other	10%
Method (Laparoscopic)	80%
Previous abdominal surgeries	60%
Post-operative Antibiotic use(%)	60%
Intra-operative drain placement(%)	50%

Table 3. Gallstone Complications

Mean time to presentation(years)	4.8
Mean Readmissions rate	2.9
Mean Reoperation rate	2.6
Mean number of procedures	3.5
Total financial cost of procedures	$181,546.60
Mean cost per procedure/visit	$11,346.41



Picture 1. CT imaging of subdiaphragmatic perihepatic abscess and subcutaneous fistulous tract



Picture 2. MRI image of perihepatic gallstone abscess

- Resulting in total cost of $181,546.60, with average $11,346.41 per procedure
- Procedures involving gallstone complications included interventional radiology image guided drains, laparoscopic or open drainage of gallstone abscesses, and nerves blocks to manage chronic pain.
- Gallstone abscesses developed in the liver, abdominal wall, retroperitoneum and intercostal rib spaces.

CONCLUSIONS

- Dropped gallstones have costly long term consequences to patients and the healthcare system.
- Greater care to avoid dropped stones and to retrieve them at index procedure should be taken to prevent these complications.

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