

REASONS FOR 30-DAY EMERGENCY DEPARTMENT VISITS AFTER LAPAROSCOPIC CHOLECYSTECTOMY.

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Key message

Many ED visits after laparoscopic cholecystectomy (LC) were not related to quality of surgical care in index admission, therefore, ED visit may not be a proper measure of quality after LC.

Background

- Emergency Department (ED) visits after LC are frequent [6.6 – 15.3%]^(1, 2) and may be used as a quality indicator.⁽³⁾
- However, there is a lack of evidence to associate ED visits and quality of surgical care.

Objectives

- Determine the percentage of patients returning to the ED after LC at McGill University Health Center (MUHC).
- Describe the reasons for 30-day ED visits after LC and determine if they are related to quality of surgical care.

Methods

- Retrospective analysis of all adult patients who underwent attempted laparoscopic cholecystectomy for benign disease between 01/2014 and 04/2019 at MUHC.
- Primary outcome: Proportion of patients returning to the ED within 30 days of discharge after LC.
- Intra-operative adverse events and post-operative complications were defined a priori according to the literature ^(4, 5).
- The primary ICD-9 diagnosis code of each ED visit was categorized as related or not related to quality of care based on a consensus document of 16 ICD-9 diagnoses deemed related to overall quality of surgical care⁽⁶⁾.

Results

Sample size and Proportion of 30-day ED visit



Demographics and perioperative outcomes

Variables	ED visit (n=217)	No ED visit (n=1655)
Age, years, mean ± SD	51.2 ± 1.2	52.1 ± 0.4
Female gender	130 (60)	1053 (63.6)
ASA ≥ 3	59 (27.2)	362 (22.2)
Diagnosis		
Biliary colic	81 (37.3)	718 (43.4)
Acute cholecystitis	71 (32.7)	471 (28.5)
Biliary pancreatitis	28 (12.9)	152 (9.2)
Choledocholithiasis	11 (5.1)	89 (5.4)
Emergency surgery	119 (54.8)	708 (42.8)*
Mean OR length ± SD, min	104.5 ± 44.8	94.5 ± 41.3*
Conversion to open	21 (9.7)	85 (5.1)*
Estimated blood loss, ml, median[IQR]	30 [30-100]	30 [30-50]*
Intraoperative adverse events	18 (8.3)	99 (6.0)
In-hospital complications	45 (20.7)	141 (8.5)*
In-hospital reoperations	2 (0.9)	2 (0.1)
Postop LOS, median[IQR], days	1 [0-2]	0 [0-1]

Data presented as n(%) unless otherwise specified; (*) for significant differences.

- (+) ED visits: 217 (11.6%)
- (-) ED visit: 1655 (88.4%)
- 217 patients visited the ED 260 times.
- 87 (40%) of patients were readmitted after ED visit.
- 173 (79%) visits on the 1st week after discharge.

30-day ED visits ICD-9codes & quality of surgical care

ICD-9 code groups related to quality of surgical care ⁽⁴⁾	ED visits (n=260)
1. Postoperative abscess/septicemia, peritoneal abscess, postoperative sepsis*	27 (10.4)
2. Hemorrhage or hematoma	20 (7.7)
3. Wound disruption/dehiscence/rupture	13 (5.0)
4. Bacterial pneumonia	11 (4.2)
5. Cellulitis/lymphangitis	9 (3.5)
6. Postoperative PE or DVT	7 (2.7)
7. Infected postoperative seroma	6 (2.3)
8. UTI	5 (1.9)
9. Other fluid and electrolyte disorders	4 (1.5)
10. Acute renal failure	2 (0.7)
11. Catheter-related bloodstream infection	1 (0.4)
Total	105 (40.4)

Other ICD-9 code groups not related to quality of surgical care⁽⁴⁾: pain (20%), choledocholithiasis (5%) and acute pancreatitis (4%).

Conclusion

- The majority (60%) of 30-day ED visits after LC were not considered to be strongly related to quality of surgical care, based on the consensus document. This calls into question the use of ED visit after LC as a quality of surgical care.

Literature cited: 1- Boehme J, Brunt, et.al., Surg Endosc (2016); 30:2217–2230 DOI 10.1007/s00464-015-4481-6 , 2- Nedza S, Fry D. et al., Am J Surg (2018); 215(3):367-370. DOI: 10.1016/j.amjsurg.2017.09.036, 3- Kocher KE, Birkmeyer JD et al., Health Affairs (2013); 32(9):1600–1607, DOI: 10.1377/hlthaff.2013.0067, 4- Shamiych A, Wayand W, Arch Surg (2004) 389:164–171. DOI 10.1007/s00423-004-0470-2, 5- Dindo D, Clavien PA et al, Ann Surg (2004);240: 205–213, DOI: 10.1097/01.sla.0000133083.54934.ae, 6- Mull HJ, Graham LS, et al., JAMA Surg (2018);153(8):728-737. DOI:10.1001/jamasurg.2018.0592.