Delay of Elective Cases Due to COVID-19 Pandemic Did Not Affect Surgical Outcomes for Elective Cholecystectomy

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Objective

Elective cholecystectomies were among procedures deferred during the pandemic as recommended by guidelines published by various surgical organizations. However, no studies to date have studied the effects the delay has on surgical outcomes of elective cholecystectomies.

The purpose of this study was to evaluate the impact of the COVID-19 pandemic on perioperative outcomes and surgical delays for elective cholecystectomies at a large urban safety-net hospital.

Methods

This is a retrospective review of patients who were evaluated in outpatient General Surgery clinic at a large, urban safety-net hospital and eventually underwent elective cholecystectomy from 2019 to 2021.

Patients were categorized into two time cohorts:

- **Pre-COVID:** Underwent cholecystectomy during six-month period leading up to cancellation of elective cases due to COVID-19 restrictions
  9/1/2019 to 3/1/2020
- **Post-Resumption:** Underwent cholecystectomy during six-month period after resumption of elective cases
  2/1/2021 to 8/1/2021

Patient characteristics, operative details, and post-operative outcomes were reviewed. Statistical analysis was used to identify significant outcome differences between the two cohorts.

Results

A total of 101 patients were included: 51 patients in the Pre-COVID cohort and 51 patients in the Post-Resumption cohort. There were no differences noted regarding patient demographics between the two cohorts.

Post-Resumption patients experienced longer duration of symptoms prior to their pre-operative clinic visit (27 vs 20 months; P = 0.039). These patients also experienced a longer time to surgery compared to patients in the Pre-COVID cohort (84 vs 120 days; P = 0.034).

There were no significant differences in conversion to open surgery, length of hospital stay, postoperative complications, or readmission rates.

	PRE-COVID (N = 51)	POST-RESUMPTION (N = 50)	P VALUE
PREOPERATIVE VARIABLES			
Duration of Symptoms (months)	20 ± 36	27 ± 41	**0.039**
Time to Surgery (days)	84	120	**0.034**
OPERATIVE DETAILS			
Operative Time (hours)	2 ± 1	2 ± 1	0.288
Converted to Open Surgery	2%	4%	0.534
Drain Placement	4%	6%	0.630
POSTOPERATIVE OUTCOMES			
Length of Stay (hours)	12 ± 8	17 ± 28	0.760
Readmission	4%	4%	0.967
Post-Op ED Visit	18%	25%	0.401
COMPLICATIONS			
Common Bile Duct Injury	0%	2%	0.310
Retained Gallstone	2%	0%	0.325
Wound Infection	0%	2%	0.305
Intra-abdominal Abscess	0%	4%	0.145
Cystic Stump Leak	0%	0%	-

Conclusion

Deferral of elective cholecystectomies was associated with longer duration of symptoms; however, these patients did not experience longer operative times or increased postoperative complications.

Results from this study show that if operative care has to be prioritized due to national emergencies, such as a pandemic, elective cholecystectomies can be safely deferred without causing significant impact on post-operative morbidity.

A limitation to this study is not identifying patients who required urgent surgery while awaiting elective cholecystectomy during the COVID-19 postponement of elective cases. This information would provide a better understanding of how the COVID-19 delay of elective cases affected patients with symptomatic cholelithiasis.