

DELAYS FROM PRESENTATION TO EMERGENCY ROOM TO INCISION FOR PATIENTS NEEDING EMERGENCY SURGERY

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BACKGROUND

Time spent waiting for emergency surgery is an important measure of quality in the provision of surgical treatment. This time duration has been shown to impact surgical outcomes and longer wait time to surgery is associated with increased morbidity⁽¹⁾. There are multiple possible causes of preoperative delay at various steps in the management process. Time spent in the emergency room (ER) prior to contact with the surgical team is often due to tests ordered by the ER. Various ways to decrease preoperative delay have been proposed, including changes in algorithms to obtain surgical consultation as well as in initial workup ordered by the ER prior to surgical consultation. Time elapsed from contact with the surgical team to skin incision is most often due to the logistics of availability of the operative room (OR) and OR staff to begin the operation. This delay could be decreased by changing OR scheduling, workflow and staffing. Currently, no uniform standards of care exist with respect to preoperative wait times for various operations.

METHODS

We conducted a retrospective chart review of 25 successive patients who presented to the ER with diagnoses requiring emergency surgical intervention and studied the time taken between presentation to the ER and the time of surgical incision (preoperative time). We also looked for correlations between preoperative time and operative time, length of stay and OR volume on the day of presentation.

RESULTS

In our analysis, we found that the median total interval from presentation to the ER until incision was 319 minutes. The median interval from ER presentation to surgical consultation was 203 minutes. The median interval from surgical consultation to entry into the OR was 75 minutes. The median interval from entry into the OR until incision was 24 minutes.

We examined three types of procedures: laparoscopic appendectomy, laparoscopic cholecystectomy and all other cases, which comprised exploratory laparoscopy, exploratory laparotomy and hernia repairs. We found that the preoperative delay was longest for the laparoscopic cholecystectomy group (median = 450 minutes) compared with the appendectomy (median = 285 minutes) and other diagnoses (median = 227 minutes), $\chi^2(2) = 10.76, p = .005$. The laparoscopic cholecystectomy group underwent a mean of 2 imaging studies preoperatively, ie most commonly a computed tomography (CT) scan and ultrasound (US) of the abdomen, which is common practice at our institution. The other groups most often underwent a single imaging study ie CT scan of the abdomen.

CONCLUSION

Patients requiring emergency surgery had considerable preoperative wait times. While our study was underpowered due to small sample size, further investigation is necessary to look at measures to minimize preoperative delays. It remains to be studied whether earlier surgical consultation can decrease preoperative delay due to fewer, more focused investigations being performed. Also, it remains to be seen whether preoperative delays correlate with ER volume. In our study, we did not find any correlation between preoperative delay and OR volume, either during normal working hours or outside of normal working hours. We did not find any correlation between the operative time and the length of stay. Furthermore, as expected, the preoperative delay is directly affected by the duration of the preoperative workup for various surgical pathologies. Measures to curtail preoperative delays for each diagnosis are essential, by ensuring good coordination between surgical and ER teams and more focused workup algorithms.

REFERENCE

1). Wood T¹, Azin A¹, Quereshy FA²; Effect of time to operation on outcomes in adults who underwent emergency general surgery procedure; J Surg Res. 2018 Aug;228:118-126.

