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Perioperative complications of emergent and elective procedures in psychiatric patients



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ABSTRACT

Background: Patients with psychiatric disorders have an increased risk for morbidity and mortality from other medical conditions.

Methods: Medical records of all the patients undergoing appendectomy ($n = 2594$) and laparoscopic cholecystectomy ($n = 2874$) from 2009 to 2014 in one hospital were reviewed. For each patient with a documented psychiatric disorder undergoing surgery, four controls were matched. **Results:** The final sample of patients undergoing appendectomy included 96 patients, whereas those undergoing laparoscopic cholecystectomy included 260 patients. In the emergent scenario, psychiatric patients had longer time from symptom appearance to admission, longer hospitalization duration, and increased rate and severity of postoperative complications. In the elective scenario, psychiatric patients were shown to have more postoperative respiratory complications.

Conclusions: Our results, together with the high prevalence of psychiatric disorders in the population, underscore the importance of screening for psychiatric disorders and their proper documentation in surgical patients.

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Introduction

Patients with psychiatric disorders have an increased risk for morbidity and mortality from other medical conditions.^{1–5} The mortality risk is highest in those with drug addiction, followed by alcoholism, organic disorders, personality disorders, schizophrenia, and other affective disorders.⁶ The risk for mortality is increased for both natural (e.g., infection) and unnatural (e.g., suicide) causes.⁵

According to the Israel National Health Survey, the lifetime occurrence of anxiety and mood disorders is 17.6% among the Israeli adult (aged more than 21 y of age) population, with mood disorders being twice as common as anxiety disorders.⁷ In contrast, the lifetime prevalence of schizophrenia is much lower, 0.1%–1.8%. These data correlate with the prevalence of worldwide psychiatric illness.⁸

Few studies have addressed the morbidity and mortality in surgical patients with psychiatric comorbidities, with most of

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these studies addressing institutionalized psychiatric patients or those with cognitive impairment.^{9,10} Increased incidence of postoperative complications was observed,¹¹ such as atelectasis and pneumonia,⁹ sepsis, intensive care unit hospitalizations, and mortality.¹² These findings were attributed to delayed diagnosis, possibly due to poor communication, differences in response to pain, and lack of cooperation. In institutionalized patients, the median hospitalization is 3 d longer and the incidence of surgical complications is over three-fold higher compared with matched controls.⁹ Although some studies did not show longer hospitalizations, delayed diagnosis and increased incidence of surgical complications were consistently observed.¹¹

Here, we compare the perioperative course of noninstitutionalized psychiatric patients with matched controls. We assessed the perioperative course for two common procedures—emergent appendectomy and elective laparoscopic cholecystectomy. These procedures were chosen because of their high frequency and because we believe there is a low variance in the operating technique in those clinical scenarios. It was hypothesized that psychiatric patients will have delayed diagnosis and therefore more perioperative complications. It was also hypothesized that the differences will be more prominent in the emergent procedure compared with the elective procedure.

Materials and methods

Data collection

The electronic medical records of patients admitted to Shaare Zedek Medical Center, undergoing appendectomy ($n = 2594$) and laparoscopic cholecystectomy ($n = 2874$) from 2009 to 2014, were used in this study. Psychiatric patients were defined as those with a documented diagnosis with International Classifications of Diseases-9 (International Statistical Classification of Diseases and Related Health Problems) codes 290-319, except for code 305.1 (tobacco use disorder).

Perioperative complications were defined as intraoperative or postoperative unexpected outcomes, which affected hospitalization duration or led to recurrent emergency department visit within 30 d following surgery. Complications

were subdivided into respiratory, infectious, surgical wound, cardiovascular, and other complications. Complications were additionally assessed by the Clavien-Dindo classification. Conversion from laparoscopic to open surgery, rehospitalizations, and death were also documented.

Study population

The study population included all the psychiatric patients as defined previously. Patients in whom the exact underlying psychiatric morbidity was either not documented or could directly influence the perioperative complications were excluded (Table 1). The psychiatric diagnoses in the study population are listed in Table 2. Nineteen and 52 psychiatric patients underwent appendectomy and laparoscopic cholecystectomy, respectively. Four nonpsychiatric patients were randomly assigned as controls, matching by age, sex, and in the appendectomy group also by surgical procedure (laparoscopic appendectomy or other appendectomy). Data for all patients were collected from the electronic medical records while strictly protecting patient anonymity.

Measures

Baseline patients' characteristics included age, sex, anthropometric data (weight, height, and body mass index), and American Society of Anesthesiology (ASA) score. Preoperative data included time from Symptom Appearance to Emergency Department (SAteD), time from Emergency Department to Surgery (EDtS) in the appendectomy group, and time from Symptoms to Surgery (StS) in the cholecystectomy group. Intraoperative and postoperative data were collected, including laparoscopic surgery converted to open surgery (LSctOS) and hospital length of stay (HLoS). Perioperative complications were documented as described previously and were addressed both separately and as a group, intraoperative or postoperative complication (IOPOC) for statistical analysis.

Ethics

The Institutional Review Board of Shaare Zedek Medical Center approved the study and waived the need for informed consent as it was a retrospective anonymous study.

Table 1 – Relationship between psychiatric conditions and surgical outcomes in excluded patients.

Diagnosis	Number of excluded patients	Exclusion reason
Intellect disability NOS	3	Increased risk for postoperative morbidity and mortality, delayed diagnosis due to behavioral and communication disorders, congenital anomalies, medical comorbidities, increased risk for aspiration. ^{9,13-15}
Alzheimer's disease	2	Increased risk for aspiration and other postoperative respiratory complications. ^{16,17}
Senile dementia uncom	4	
Dementia w/o behav dist	1	
Mental disor NOS/NEC oth dis	6	Codes 290-319, insufficient details.
Special symptom NEC/NOS	1	Nonspecific diagnoses, codes 307.0-307.9

NEC = not elsewhere classified; NOS = not otherwise specified.

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