

Relapse of ileus in patients with psychiatric disorders: A 2-year chart review



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ABSTRACT

Objective: To explore risk factors for relapse of paralytic ileus in a psychiatric population.

Method: We conducted a systematic chart-review to examine two-year relapse rates in psychiatric patients who received treatment for ileus from 2008 to 2012. Binary logistic regression analyses were performed to evaluate associations between sociodemographic and clinical characteristics and relapse of ileus.

Results: Sixty-three subjects (38 women; age, 66.0±11.3 years) were included; 62 subjects recovered from ileus. During the subsequent 2 years, 26 (41.3%) subjects experienced relapse. In the entire sample, relapse of ileus was associated with history of abdominal surgery ($P=.03$, odds ratio=4.34, 95% CI=1.15–16.42) and duration of psychiatric disorders ($P=.02$, odds ratio=1.00, 95% CI=1.00–1.00). In a subgroup of 43 subjects with schizophrenia, history of abdominal surgery ($P=.01$, odds ratio=12.09, 95% CI=1.78–82.15) and age ($P=.02$, odds ratio=1.12, 95% CI=1.02–1.23) predicted relapse of ileus.

Conclusions: Since relapse of ileus is common and can be serious in psychiatric patients, special attention is warranted to those who are old, have a history of abdominal surgery or a longer duration of psychiatric disorders to prevent relapse of ileus.

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1. Introduction

Patients with psychiatric disorders, including schizophrenia and dementia, frequently experience constipation [17]. If not successfully treated, constipation often leads to ileus (i.e. intestinal obstruction), which could in turn result in life-threatening consequences such as pneumonia, sepsis, and perforation [3,7,9,16]. Previous studies have found the prevalence rates of ileus in patients with schizophrenia to be within a range of 0.66–1.3% [9]. Further, the mortality rates of ileus were reported to be as high as 7.3–27.5% in patients with schizophrenia who suffered from this medical condition [9,12].

Previous investigations have revealed a number of risk factors associated with ileus in patients with psychiatric disorders. For example, the

largest study thus far showed that predictors of ileus in 26720 patients with schizophrenia included older age, female sex, and treatment with clozapine, high-potency first generation antipsychotics, tricyclic antidepressants, anticholinergics, and opioids [9]. However, those previous studies failed to evaluate long-term treatment outcomes [18], which is critically important given that ileus is frequently recurrent [5,11,13,15]. Thus, no study has investigated risk factors of relapse of ileus in patients with various psychiatric conditions who are on ileus-offensive psychotropics.

Treatment guidelines for ileus in psychiatric patients recommend that (1) antipsychotics should be reduced based on severity of ileus, (2) antipsychotics should be switched to one with less anticholinergic activity, or (3) anticholinergic antiparkinsonian drugs (APDs) should be reduced or their administration should be divided in dose [1,10,14]. However, antipsychotic dose reduction or switch may worsen clinical symptoms [2], and dose reduction of APDs may worsen extrapyramidal symptoms [19], even though these treatment strategies are deemed necessary to prevent relapse of ileus [17]. The aforementioned study is the only systematic one that examined ileus in psychiatric disorders [9]. Despite its high clinical relevance, to the best of our knowledge,

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no study has investigated how treatment regimens are adjusted in clinical settings to manage ileus in psychiatric patients [4,17].

In this study, we conducted a systematic chart-review to examine two-year outcomes of patients with psychiatric disorders who received treatment for ileus. We also compared demographic and clinical characteristics between those who experienced relapse of ileus and those who did not during the two years. The objectives of this study were (1) to examine the rate of relapse of ileus in those who received the treatment for the condition and (2) to identify risk factors contributing to the relapse of ileus in psychiatric patients.

2. Methods

2.1. Study design

This chart-review study was conducted in patients who received treatment for ileus at Tokyo Musashino Hospital in Tokyo, Japan from January 1, 2008, to December 31, 2012. The Tokyo Musashino Hospital is a psychiatric hospital in the centre of Tokyo (637 beds, 2000 new outpatients and 1800 new inpatients/year) and has 9 psychiatric wards and 1 ward for comorbid physical illnesses. We identified subjects with the 10th revision of the International Statistical Classification of Diseases and Related Health Problems (*ICD-10*) [21] codes of k31.5, k56, and k91.3, representing obstruction of duodenum, paralytic ileus and intestinal obstruction without hernia, and postprocedural intestinal obstruction, respectively. Then, if their outcomes were available for two years after the initial treatment, they were included in this study. No exclusion criteria were applied. The subjects were followed up in their electronic charts to observe the course of ileus and examine whether or not they experienced any relapse of ileus according to the same diagnostic system (*ICD-10*) as indicated in the inclusion criteria. Data collected included their demographic and clinical characteristics, and medications during initial treatment of ileus and during the subsequent 2-year period after successful treatment of ileus. The study was approved by the institutional review board of the hospital and was waived from informed consent as we handled data that were acquired through routine clinical

practice and made anonymous. The study design was summarized in Fig. 1.

2.2. Outcome measures

The following information was collected: age, sex, diagnosis of psychiatric disorders based on the *ICD-10* [21], duration of psychiatric disorders, history of abdominal surgery, diabetes, and ileus-related congenital illness, duration of the initial treatment for ileus, and current medications including antipsychotics, anticholinergic APDs, laxatives, and opioid analgesics. Duration of psychiatric disorders was obtained deducting the age of onset of psychiatric disorders, which was recorded in the electronic chart, from their current age. The electronic chart also provided us an opportunity to look at the history of abdominal surgery as recorded. During the 2-year period, we also collected data including ileus relapse number and medications before and after subsequent treatment of the relapse. Daily doses of antipsychotics and anticholinergic APDs were converted to chlorpromazine equivalents (CPZE) [6] and biperiden equivalents (BPDE) [6], respectively. If subjects received intravenous anticholinergic APDs, BPDE doses were doubled from those of oral APDs in light of bioavailability. Daily doses of laxatives were converted to daily units, as defined by recommended doses per day. If daily recommended doses had a range, an average dose of the upper and lower limits of the recommended doses was defined as one unit. Remission of ileus was defined as the onset of continuous defecation and resumption of oral intake based on the chart record.

2.3. Statistical analyses

Kaplan-Meier method was used to estimate the probability of relapse of ileus during the two-year period. Daily CPZE doses of antipsychotics, daily units of laxatives, and daily BPDE doses of anticholinergic APDs were compared between onset and remission of the initial episode of ileus, using a Wilcoxon Signed Ranks test with the Last Observation Carried Forward (LOCF) method. The demographic and clinical characteristics, including rates of polypharmacy and rates of those who were receiving antipsychotics with stronger anticholinergic effects (i.e.

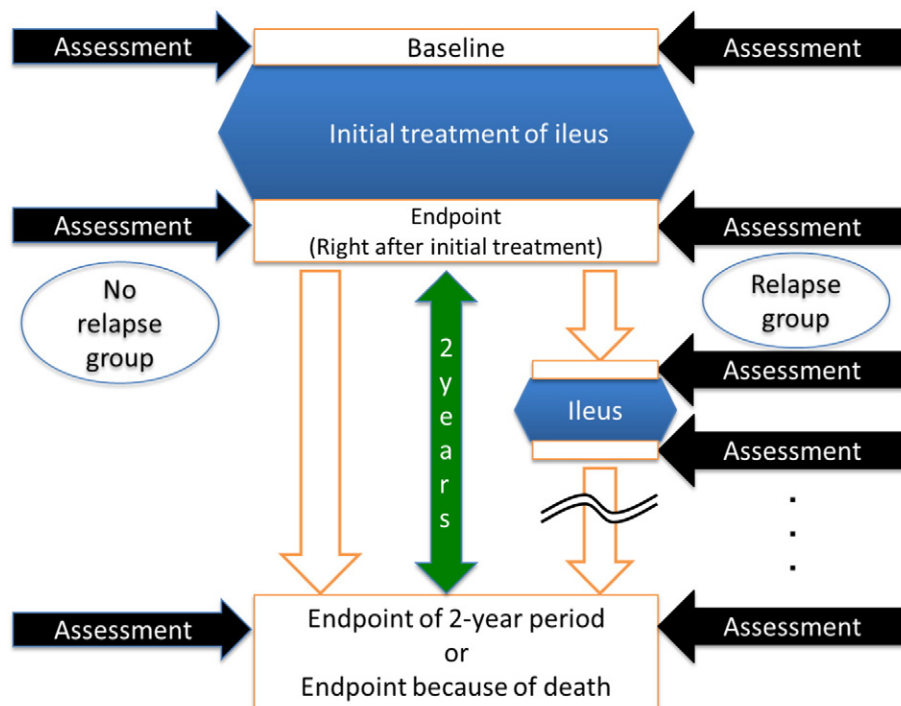


Fig. 1. Study design.

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