Psychiatria Danubina, 2025 Vol. 37, No. 2, pp 246-248 https://doi.org/10.24869/psyd.2025.246 *Case Report*

Lurasidone as a possibility for effective treatment of schizophrenic patients who are at risk of developing ileus

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INTRODUCTION

Atypical antipsychotic drugs used in treatment of schizophrenia play a key role in both managing acute episodes and in maintenance pharmacotherapy (Orzelska-Górka et al., 2023). Their action is based on reducing the effect of dopamine on D2 receptors, but they also act on other receptors, which often causes their side effects (Pakpoor & Agius, 2014). Their affinity for muscarinic cholinergic receptors can cause constipation, which, in the most severe cases, may lead to the development of ileus and intestinal ischemia (Shah &Anderson, 2013). Although constipation is a well-known side effect of antipsychotic treatment, this issue has only received limited coverage with the peer-reviewed literature consisting almost exclusively of case reports. Based on the relevant literature, clozapine is the antipsychotic most commonly associated with the development of ileus due to its high affinity for muscarinic cholinergic receptors (Sarac et al., 2015). Olanzapine, despite evidence of its anticholinergic effect in the literature, is not associated with an increased risk of developing ileus.

In this paper, we aim to present the therapeutic potential of lurasidone in a patient with long-standing schizophrenia who has frequently developed ileus as a side effect to previously taken antipsychotic drugs.

CASE REPORT

A 70-year-old patient has been treated for schizophrenic disorder since the age of 30. After 25 years of treatment with clozapine—which had been effective in maintaining a long-term, stable functional remission—he developed ileus for the first time. Gastroenterological diagnostics , such as colonoscopy and a CT scan did not provide evidence of pathological obstruction and linked the occurrence of ileus to clozapine use. Due to this adverse effect, clozapine was discontinued and replaced with olanzapine at a dose of 20 mg/day. During the first years of treatment with olanzapine, the patient's mental state was stable, and the medication did not cause constipation. However, over time, constipation re-emerged, prompting several dose reductions to a minimum effective dose of 10 mg/day. Despite these therapy adjustments, constipation and ileus occurred on several occasions. The patient was repeatedly treated conservatively and underwent surgery on two occasions. In recent years, the frequency of ileus episodes increased significantly, culminating in the need for four hospitalizations within a single year. Due to the development of side effects (constipation, ileus) which seriously threatened the patient's physical health, it was necessary to change the antipsychotic therapy. Since there have been no reports in recent years linking lurasidone to the development of ileus, it was decided to introduce lurasidone into the therapy. In February 2022 the dose of olanzapine was gradually reduced, and lurasidone was introduced at a dose of 111 mg/day. Since then, the patient has not experienced constipation or the development of ileus while on lurasidone at a dose of 111 mg/day. The patient's mental state is still in remission, and during check-ups he expressed satisfaction with his condition and functioning.

DISCUSSION AND CONCULSION

Psychiatrists who prescribe antipsychotics for the treatment of schizophrenia are normally aware of the overall side effects caused by these drugs, but constipation is often an under-recognized side effect. The data suggests that the incidence of constipation differs among individual antipsychotics. However, it is notable that more than half of the patients prescribed antipsychotics suffer from constipation, which may sometimes lead to the development of ileus (Xu Y et al., 2021). Most case reports point that clozapine can induce gastrointestinal hypomotility that may lead to paralytic ileus, bowel

obstruction, gastrointestinal ischaemia, toxic megacolon, and, in the most severe cases, death (Every-Palmer et al., 2020). Despite its strong anticholinergic effect, olanzapine has not been associated with an increased risk of ileus in the published studies (Nielsen &Jonathan, 2012). For many years there has been evidence that there are anticholinergic effects differences between patients receiving standard clinical doses of olanzapine and clozapine (Chengappa et al., 2000). Olanzapine has only about one-fifth of the anticholinergic affinity compared to clozapine. Case reports suggest that the concurrent use of medications with anticholinergic effects (e.g., olanzapine, chlorpromazine, amitriptyline) alongside clozapine should be avoided, as this combination is likely to increase the risk of developing constipation (Bouhuis et al., 2022).

The patient presented in this case report has been treated for schizophrenia for many years, initially with clozapine and later with olanzapine, and frequently developed gastrointestinal side effects. With these antipsychotics, the patient achieved a stable remission, but due to their antagonism of muscarinic (cholinergic) receptors, constipation and ileus were frequent and posed a serious threat to the patient.

Clozapine dose reduction with or without switching to an antipsychotic with less anticholinergic effects is the strategy of first choice in the management of these side effects (Levin et al., 2002).

Stable and long-term remission in this patient on clozapine was crucial for us to decide on an antipsychotic with the most similar pharmacodynamics – olanzapine (Stahl 2013), which according to the literature has a significantly lower antimuscarinic effect (Chengappa et al., 2000). Unfortunately, the patient also developed gastrointestinal side effects while on olanzapine, which required another therapy revision.

In order to maintain a stable remission in the patient and minimize the risk of side effects, lurasidone was introduced into the therapy. Literature review was performed in order to find published studies of randomized controlled trials and recent meta-analyses regarding efficacy and safety, and particularly metabolic side effects of lurasidone in schizophrenia (Fiorillo et al., 2022). Lurasidone is an atypical antipsychotic that possesses dopamine D(2) and serotonin 5-HT(2A) antagonism while exhibiting little affinity for histamine H(1), α(1)-adrenergic, or cholinergic M1 receptors. This receptor-binding profile is thought to be associated with fewer side effects such as anticholinergic effects, lipid abnormalities, hyperglycemia, and weight gain. A recent study suggests switching one antipsychotic to another antipsychotic is a useful and important treatment strategy in patients experiencing various side effects. When the switch to another antipsychotic is necessary because of the development of side effects, lurasidone is recommended as the first-line antipsychotic (Miura et al., 2023). In line with previous clinical experiences with lurasidone, the patient responded well to the change in therapy, achieving stable remission without further occurrences of constipation or ileus.. Lurasidone appears to carry a lower risk of ileus development and is effective in maintaining psychiatric remission, particularly in the patient presented here, who has schizophrenia and a history of recurrent ileus during earlier treatment with clozapine and olanzapine. A limitation of the curent case report is that more time is needed to definitely monitor the effect of lurasidone and the possible development of side effects (constipation, ileus). Constipation as a side effect of antipsychotics should be closely monitored in patients receiving these medications, with timely intervention to avoid serious gastrointestinal consequences.

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