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Case Report

Acute alithiasic pancreatitis following the use of Risperidone in a young man with schizophrenia: As a rare case report ☆

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ABSTRACT

Acute pancreatitis due to antipsychotic treatment is a rare but serious complication. Risperidone is among the rarest atypical antipsychotics associated with acute pancreatitis. Here, we report the case of acute pancreatitis developing 2 years after the use of Risperidone in a young man with schizophrenia. The mechanism and the time of occurrence in this case are at odds with what is generally reported in the literature.

Introduction

Schizophrenia is a psychotic disorder with heterogeneous genetic and neurobiological background. The main management options comprise atypical antipsychotics such as Risperidone [1]. Despite their benefit on alleviating psychotic symptoms, side effects are commonly described and can range from minor tolerability issues to life-threatening [2]. Acute pancreatitis is rare but serious side effect limited to case reports, ranging in severity from mild inflammation to multiple organ failure and sepsis [3].

Case presentation

A 26 years old nondiabetic man, with a past medical history of schizophrenia for 2 years, presented to our emergency depart-

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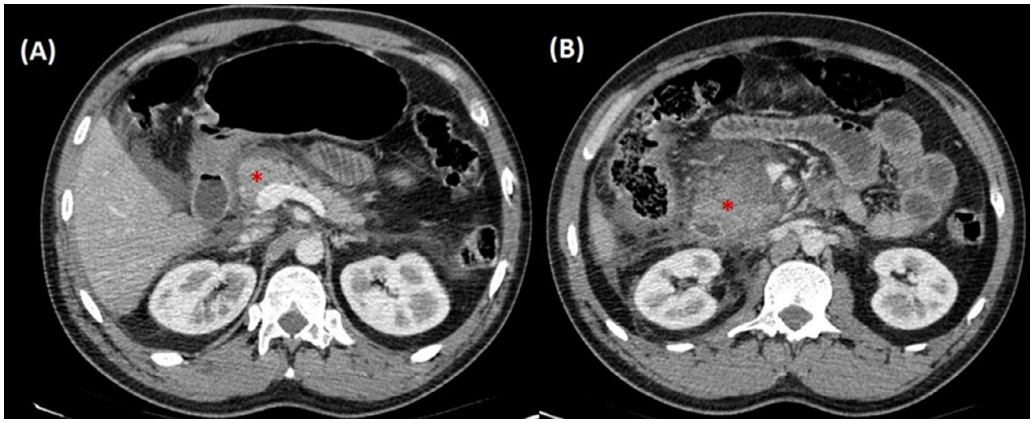

Fig. 1 – Axial CT Scan showing grade E pancreatitis (A) Thickened pancreas with heterogeneous enhancement, reflective of edema (asterisk) (B) Large heterogeneous peripancreatic necrotic collections (asterisk).

ment for acute onset of severe epigastric pain accompanied by several episodes of emesis and intermittent fever for 24 hours.

He was on Risperidone for 2 years (8 mg per day). His psychotic illness was relatively stable with minor negative symptoms such as decreased emotional expression, normal routine blood tests (liver enzymes as well as cell counts) and never reported any side effects. He was a never smoker, denied alcohol or drug use, and worked as a pediatric nurse.

On initial assessment, the vital signs were within normal limits except for heart rate fluctuating between 100 and 120 bpm and a temperature at 39°C. Abdominal examination revealed tenderness on the right upper quadrant with normal bowel sounds.

Initial blood counts showed elevated white blood cell at 22,200 cells/μL. He also had elevated serum levels of lipase (517 U/L) and C-reactive protein (208 mg/L) without transaminitis hyperbilirubinemia or elevated levels of calcium or lactate dehydrogenase.

Computed tomography of the abdomen with contrast revealed focal pancreatitis at head portion complicated by large necrosis, but no image finding of cannabidiol stone or biliary/pancreatic duct dilation (Fig. 1).

The patient was admitted to the ICU, symptomatic treatment was started (metoclopramide 10 mg per day, Néfopam chlorhydrate 20 mg per 4 hours, paracetamol 1 g per 8 hours) along with intravenous antibiotics (ciprofloxacin 400 mg x 3 per day + metronidazole 500 mg x 3 per day), rehydration and fasting.

Seventy-two hours later, his general condition deteriorated, white blood cells and inflammatory enzymes slightly decreased but lipasemia stayed at a high rate (Fig. 2).

Tracing back to his medication use history, drug-related pancreatitis was suspected. Of the patient's medications, Risperidone was identified as the most likely causative agent. Thus, Risperidone was discontinued and switched to intravenous haloperidol 5mg per day with good outcome. The patient's clinical status improved and lipasemia significantly decreased to normal range (59 UI/L).

He had an uneventful recovery and was discharged after 5 days on oral haloperidol 5 mg per day. Repeat blood tests at 1 month was normal including lipasemia, liver enzymes, and blood cell counts.

Discussion

Acute pancreatitis is an inflammatory disease of the pancreas. Clinical manifestations include acute abdominal pain as the most common symptom, nausea, vomiting and fever. Increased concentrations of serum lipase confirm the diagnosis [4]. Gallstone migration into the common bile duct and alcohol abuse are the most frequent causes of pancreatitis in adults [4]. About 15%-25% of pancreatitis episodes are of unknown origin, drug-induced pancreatitis represent only 0,1%-2% of general acute pancreatitis [3].

The main management options comprise anti-psychotics. Commonly used antipsychotics are second-generation such as Risperidone [1]. Although effective, they are associated with a high risk of metabolic and hematologic complications such as hyperglycemia, diabetes and agranulocytosis [5–7]. Reviewing the literature, only few cases of acute pancreatitis due to risperidone treatment have been reported, occurring mainly after short time use, and commonly related to lithiasic cause [8–10].

Therefore, multidisciplinary discussion questioned the diagnosis of Risperidone related acute pancreatitis because of the mechanism and the timing of occurrence. Causation was not definitively demonstrated but was considered likely due to the clinical improvement following the discontinuation of Risperidone and the extensive workup that was unremarkable.

The possibility of other etiologies were considered. However, the patient had no overt triglyceride or calcium dysfunction, gallstones, recent alcohol or other toxic use. He also did not have any family history of pancreatitis.

The management of drug-induced pancreatitis is very challenging. The chief problem is identifying the treatment

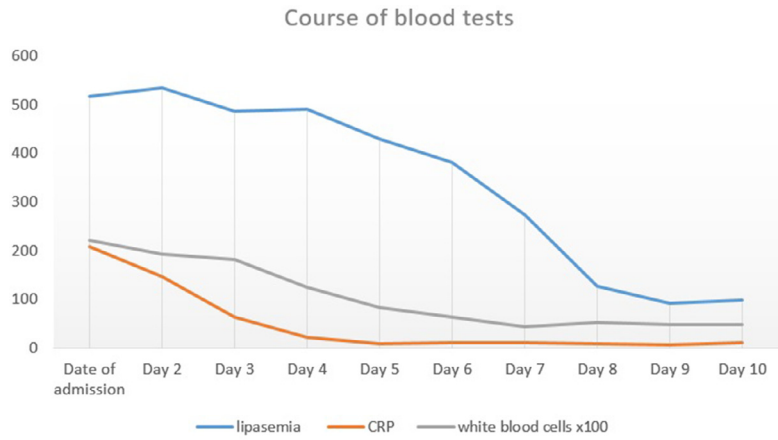

Fig. 2 – Course of blood tests.

involved and establishing a causal relationship between the drug and clinical outcome, especially for patients with multiple medical problems. In the case studies reported, Aripiprazole is currently used as an alternative to Risperidone, as it is thought to have fewer effects on metabolism, than other atypical antipsychotic agents [11]. Aripiprazole, however, is not accepted by a proportion of patients due to the considerable expense, as in our case.

Conclusion

As the indications for antipsychotic therapy increase, clinicians should not underestimate the risk of acute pancreatitis even after long term of use. This suggests that it is important to assess pancreatic function by adding lipasemia to the annual blood work of patients on prolonged courses of antipsychotics therapy such as risperidone.

Patient consent

The patient gave his informed consent for this case report to be published.

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REFERENCES

[1] Patel KR, Cherian J, Gohil K. Schizophrenia : overview and treatment options. 2014;39(9):638–45.
[2] Stroup TS, Gray N. Management of common adverse effects of antipsychotic medications. World Psychiatry 2018;17:341–56.
[3] Jones MR, Hall OM, Kaye AM, Kaye AD. Drug-induced acute pancreatitis: a review. Ochsner J 2015;15(1):45–51.
[4] Frossard J-L, Pastor CM. Acute pancreatitis. Lancet 2008;371:143–52.
[5] Su JA, Wu CH, Tsang HY. Olanzapine-induced agranulocytosis in systemic lupus erythematosus: a case report. Gen Hosp Psychiatry 2007;29(1):75–7.
[6] JW N. Second-generation (atypical) antipsychotics and metabolic effects: a comprehensive literature review. CNS Drugs 2005;19(1):1–93.
[7] koller A, cross T, Murali P, Shneinder S. Risperidone-associated diabetes mellitus: a pharmacovigilance study. Pharmacotherapy 2003;23(6):735–44.
[8] Kawabe K, Ueno SI. A case of acute pancreatitis associated with risperidone treatment. Clin Psychopharmacol Neurosci 2014;12(1):67–8.
[9] Hanft A, Bourgeois J. Risperidone and pancreatitis. J Am Acad Child Adolesc Psychiatry 2004;43(12):1458–9.
[10] Holtmann M, Hartling F. Risperidose -induced acute pancreatitis. J Psychiatr Intensive Care 2006;2(1):39–41.
[11] Ribeiro E, Lima T, Vieira M, Storpirtis S, Aguiar P. Efficacy and safety of aripiprazole for the treatment of schizophrenia: an overview of systematic reviews. Eur J Clin Pharmacol 2018;74(10):1215–33.