EMERGENCY CASEBOOK

A case of clozapine-induced paralytic ileus

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Clozapine is a prototypical second-generation antipsychotic, which has been found to be associated with various adverse effects. Although emphasis has mainly been placed on its haematological and metabolic side effects, less attention has been paid to its anticholinergic effects. One such problem is that of a paralytic ileus. A case of a young man with psychosis who developed a paralytic ileus while on treatment with clozapine is described here.

CASE PRESENTATION

A 30-year-old man was brought to the accident and emergency department with a 1-day history of gross abdominal distension, associated with belching and flatus. He had felt only moderately unwell and was not having severe abdominal pain or vomiting.

He was known to have schizophrenia and had recently had worsening symptoms related to his mental illness. He was treated with sertraline and clozapine, and the dose of clozapine had recently been increased from 450 to 600 mg daily.

Three months before his attendance, he had undergone a partial small bowel resection as a result of bowel obstruction caused by a Meckel's diverticulum.

On examination, his vital signs were found to be stable. His abdomen was distended but non-tender, with a tympanitic note on percussion. Sluggish bowel sounds were heard on auscultation, and a rectal examination showed soft stool with no other remarkable findings.

Biochemical investigations for electrolytes and inflammatory markers were normal, as was a full blood count. Abdominal x rays (fig 1) showed dilated loops of bowel. A diagnosis of paralytic ileus likely to be secondary to clozapine was made.

After discussion with his psychiatrist, his dose of clozapine was reduced to 450 mg once again. He was discharged from the emergency department, but reviewed in the emergency department after 24 h. At this time a marked reduction in the distension of his abdomen and complete resolution of other symptoms were noted. On subsequent follow-up at 3 months, the patient had no complaints of a similar nature.

DISCUSSION

Clozapine is used in the management of severely ill patients with schizophrenia who fail to respond adequately to standard drug treatment. Because of the significant risk of agranulocytosis and seizure associated with its use, clozapine should be used only in patients who have failed to respond adequately to treatment with appropriate courses of standard drugs for schizophrenia.

Clozapine is a tricyclic dibenzodiazepine derivative (8-chloro-11-(4-methyl-1-piperazinyl)-5H-dibenzo [*b,e*] [1,4] diazepine). It is classified as an atypical antipsychotic drug because of its profile of binding to dopamine receptors and having effects on various dopamine-mediated actions, which differ from those

exhibited by more typical antipsychotic drugs. Other atypical antipsychotics include olanzapine, risperidone, ziprasidone and quetiapine.

Clozapine interferes with the binding of dopamine at dopamine receptors. It has preferentially greater activity at limbic rather than at striatal dopamine receptors, and this may explain the relative freedom of clozapine from extrapyramidal side effects. It also acts as an antagonist at adrenergic, cholinergic, histaminergic and serotonergic receptors.¹

Like other antipsychotics, clozapine causes anticholinergic effects by blocking muscarinic (M3) receptors. Clozapine has marked anticholinergic activity, and concurrent use with other anticholinergic drugs can increase side effects such as dry mouth, constipation, loss of accommodation and urinary retention. Constipation is a side effect in around 15% of patients taking clozapine, and in most, simple advice about diet and fluid intake is all that is required in terms of treatment.¹ More significant ileus, as in the case presented, is an uncommon but potentially more serious side effect. It may particularly be associated with bowel surgery.² In some patients with intestinal obstruction, surgical intervention has been necessary. There have even been reports of death as a result of severe ileus related to clozapine administration.³

In patients presenting with troublesome symptoms related to the bowel or frank ileus, a reduction in the dose of clozapine may be required. However, this should only be done in consultation with the patient's psychiatrist, and with appropriate monitoring for recurrence of psychotic symptoms.

Figure 1 x Ray showing dilated loops of bowel.

CONCLUSION

This case demonstrates one of the less common side effects of clozapine. Emergency physicians should be aware of the potential of atypical antipsychotic drugs to cause ileus, particularly in the setting of recent bowel surgery.

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