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Higher Up In The Sky: A Rare Tale of Methamphetamine-induced Paralytic Ileus

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Introduction

Methamphetamine overdose is a common problem presented to emergency department and traditionally known for its potent cardiovascular stimulant property. It also influences the gut motility but its exact mechanism remains poorly understood. We describe a rare case of methamphetamine-induced paralytic ileus (MII).

Case report

A 29-year-old man presented with generalized, colicky abdominal pain for 5 hours. It was associated with reduced flatus and anorexia. He initially denied any alcohol or illicit drug use. He had no fever, diarrhea, signs of respiratory or urinary tract infection. He also had no history of abdominal surgery. On examination, he appeared disproportionately happy, disinhibited and excessively sweating. He was normotensive, clinically euvolemic with heart rate range 95-105 beats per minute. Both of his pupils remain strikingly dilated despite under bright light (Fig. 1). His abdomen was soft with minimal tenderness all over. Serial abdominal examination noted that the initially active bowel sound turned sluggish then absent. Over period of two hours, his abdominal pain became more persistent. His abdomen was tympanic and distended with minimal voluntary guarding. He vomited large amount of gastric content once. Nasogastric tube was inserted, aspirated 300cc of gastric fluid.

Fig.1

On further questioning, he finally admitted to being a regular 'ice' abuser, having 'binge-chased' double of his usual dose earlier that day. This was the first time he experienced abdominal pain after using 'ice'. Urinary drug test confirmed his use of methamphetamine. Abdominal X-ray revealed dilated small and large bowel loops (Fig. 2). Biochemistry tests were unremarkable. His venous blood gas showed compensated metabolic alkalosis with pH 7.35 and bicarb 29.0mmol/L. Five hours later, he began passing out flatus and his abdominal pain and distension quickly resolved. He was diagnosed with methamphetamine-induced paralytic ileus (MII) and admitted for psychiatric evaluation.

Fig.2

Discussion

Methamphetamine is a psychostimulant drug that promotes the release of noradrenaline and dopamine. Its sympathomimetic property stimulates the alpha and beta adrenoreceptors, causing a catecholamine storm with profound cardiovascular effect. Notably, the drug's vasoconstrictive potential was speculated to be the culprit in several reports of non-occlusive mesenteric ischemia in methamphetamine users[1].

In recent years, new evidences emerge that methamphetamine also substantiate effects on nonvascular physiology affecting gut motility. This case describes the rare MII, which was reported only thrice before. Carlson et al, McKelvie et al and Morshiri et al reveal that MII tends to spontaneously resolve within 48 hours[2,3,4]. Fascinatingly, we share a striking similarity with McKelvie et al, as our patients recently binged on increased dose of methamphetamine than usual preceeding MII. This encourages speculation that the severity of changes in gut motility in MII may be dose-dependent[4].

Conclusion

High dose of methamphetamine intoxication may induce ileus. Therefore, clinicians should consider this as a differential diagnosis in a methamphetamine user with acute abdomen.

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Declaration of conflict for all authors

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