Case Report

Cocaine-induced Ischaemic Stricture of the Colon

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INTRODUCTION

Cocaine abuse is a widespread social problem with many well-recognized complications. These include cardiac, cerebrovascular and gastrointestinal events. Cocaine may effect a severe vasoconstriction, and its potential to induce severe side effects, because of this pharmacological action, are well recognized. In the abdomen the development of ischaemic strictures in both the small and large bowel may occur. However, the latter is seldom reported and only one case report relating to the radiological literature could be found on Medline and Embase literature searches.

We recently encountered a patient with a strong history of heavy cocaine and “crack” cocaine use, who presented with abdominal pain of unknown origin. Radiological investigation showed a colonic stricture to be the cause of his symptoms. This was resected and subsequent histology revealed this to be an ischaemic stricture, thought to be related to his cocaine abuse.

CASE REPORT

A 41-year-old man presented with a 4-day history of left-sided abdominal pain with no gastrointestinal symptoms. There was no history of arteriopathy or cardiopathy. He admitted during the admission, and at previous psychiatric outpatient assessments, to long-term heavy cocaine and crack use, including a previous overdose attempt involving cocaine.

On examination, he was tender in the left upper quadrant, flank and iliac fossa. Some guarding was elicited, but no evidence of frank peritonism. No masses or organomegaly were palpable and bowel sounds proved scanty. He was apyrexial.

No diagnostic features were demonstrated on plain abdominal radiography. Flexible sigmoidoscopy proved normal and so the patient proceeded to an enhanced CT of the abdomen and pelvis. This demonstrated mural thickening at the splenic flexure (Fig. 1). This was thought to be possibly due to underlying neoplasm. Colonoscopy confirmed a stricture at 80 cm, but the endoscope was not able to traverse the stricture. A barium enema examination demonstrated a stricture with shouldering at the level of the splenic flexure (Fig. 2). Histology from the endoscopic biopsies showed chronic inflammatory change, but no evidence of neoplasia. A laparotomy and a left hemicolectomy were performed. Histology from the resected colon confirmed a diagnosis of ischaemic colitis, but revealed no evidence of neoplasia.

DISCUSSION

A number of reports have confirmed the causal relationship of intestinal ischaemia with cocaine abuse [1–6]. This has been documented with intravenous, inhalation (particularly in relation to “crack” cocaine) and oral ingestion of the drug in its free-base and hydrochloride forms [1–3,5,6], but is less common after intranasal use [3,4]. Brown et al. in their literature review [5] found 11 reports of this cocaine-induced complication with ischaemia involving the small intestine alone in six cases, the colon alone in four cases and both in one case.

It is now believed that vasospasm is the overriding mechanism leading to the intestinal ischaemic event. However, exactly how cocaine mediates this is still unclear. It is thought that enteric injury occurs after cocaine-induced catecholamine release, which stimulates alpha-adrenergic receptors [3]. Others suggest a direct vasoconstrictive effect mediated by cocaine’s enhancement of the transmembrane flow of calcium [5]. Further studies have also suggested a direct toxic effect of cocaine on gastrointestinal mucosa [1,5].

Although a direct cause-and-effect relationship cannot be proven, the temporal relationship between cocaine use and the intestinal ischaemic injury highlighted in this case report (and those described previously) intimates a causal association between the two, particularly as our patient had no risk factors for ischaemic colitis.

Another salient feature demonstrated in our imaging investigations, but particularly the barium study, relates to the stricture appearances, which were very suggestive of an underlying neoplastic stricture and consist of marked “shouldering” and an absolute hold up to the passage of the barium preparation. Other, rarer causes of similar stricture appearances would include radiation fibrosis, peritoneal metastases, lymphoma and strictures in association with inflammatory bowel disease.

When a known or suspected cocaine abuser presents with abdominal symptoms and signs suggestive of intestinal obstruction it is important, therefore, that a diagnosis of
ischaemic enteritis with possible stricture formation be considered in the differential diagnosis.

REFERENCES


