

Computed Tomography of Colonic Pseudo-Obstruction (Ogilvie's Syndrome): A Case Report

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ABSTRACT

A 61-year-old male presented with off and on abdominal distension and constipation for 1 year. Plain abdominal radiograph revealed marked dilatation of the colon and absence of gas in the rectum, mimicking sigmoid volvulus. CT scan was performed and showed marked dilatation of the colon from cecum to descending colon without evidence of mechanical cause of obstruction. Colonoscopy confirmed no obstructing colonic lesion. Colonic pseudo-obstruction was diagnosed and patient was treated by colonoscopic decompression and medical treatment.

Key words : Colonic pseudo-obstruction, Ogilvie's syndrome, Computed tomography

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INTRODUCTION

Colonic pseudo-obstruction (Ogilvie's syndrome) is a failure of propulsion of intestinal content but without evidence of obstructive colonic lesions⁽¹⁾. Although pathophysiology of this condition is not fully understood, it is thought to result from an imbalance in the regulation of colonic motor activity by the autonomic nervous system⁽²⁾. Plain abdominal radiograph of this condition has been well known⁽²⁻⁷⁾, but there has been only one small series of Computerized tomography (CT) findings in the English literature⁽⁸⁾. We recently encountered a case of colonic pseudo-obstruction, of which CT played an important role in making correct diagnosis. We, therefore, report this case in order to

familiarize clinicians and radiologists to this uncommon disease and to emphasize the role of CT as an accurate tool to determine the exact nature of colonic dilatation.

CASE REPORT

A 61-year-old male presented with off and on abdominal distension and constipation for 1 year. He had underlying DM, HT and dyslipidemia. No family history of cancer or history of previous surgery was revealed. Plain abdominal radiograph, performed from other institution, showed markedly dilated large bowel, and colonic obstruction was suspected. Upon arrival

to our hospital, he was urgently consulted to our department for abdominal CT scan to rule out colonic obstruction.

Scout view of abdominal CT showed markedly large bowel dilatation with no demonstrable gas within the rectum, mimicking sigmoid volvulus (Figure 1). Also seen were two safety pins at the right- and left-



Figure 1. Scout view CT shows markedly dilated large bowel at mid abdomen without demonstrable gas in rectum, mimicking sigmoid volvulus. There are two safety pins in right- and left-sided colon.



Figure 2. Coronal view CT shows that the markedly dilated colon at mid abdomen is actually a dilated transverse colon with a redundant course downward to the lower abdomen.

sided of the dilated colon. CT abdomen revealed marked colonic dilatation from cecum to distal descending colon, containing retained fecal material. The markedly dilated colonic loop at mid-abdomen, seen in scout view CT, was actually dilated transverse colon with a redundant course downward to the lower abdomen, which measured about 10 cm in diameter (Figure 2). The transitional zone is at the sigmoid colon with intermediate change of caliber and without evidence of volvulus or mechanical cause of obstruction (Figure 3). Two safety pins were identified; one was within the cecum (Figure 4) and the other within dilated transverse colon (Figure 5). These two pins were intraluminal and likely to be secondary to oral intake. There was no evidence of free air or free fluid

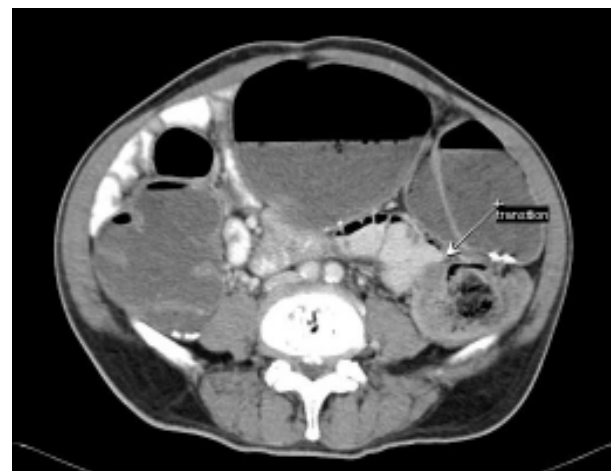


Figure 3. Axial view CT reveals the transitional zone at sigmoid colon (arrow), which shows intermediate change of caliber without any cause of mechanical obstruction.



Figure 4. Axial view CT shows a metallic density of safety pin within the dilated cecum (arrow).



Figure 5. Coronal view CT shows another safety pin within the dilated redundant distal transverse colon (arrow).

that would suggest perforation. Given the chronic history of abdominal distension and constipation and CT findings of marked colonic dilatation without evidence of mechanical obstruction, colonic pseudo-obstruction (Ogilvie's syndrome) was diagnosed and colonoscopy was suggested to confirm this condition.

All laboratory data were normal. The colonoscopy revealed much fecal material within the entire colon. The scope could pass easily from rectum to cecum without any points of obstruction. Colonic decompression was performed. There were multiple small aphthous-like ulcers at rectum and sigmoid colon. The IC valve and terminal ileum were normal. The ulcer was biopsied and histopathology revealed nonspecific acute and chronic colitis without malignancy. He was treated with laxative agents and motility drugs. On follow-up, his symptoms were improved and plain abdomen showed decreasing of colonic dilatation with disappearance of the two safety pins. The final diagnosis was colonic pseudo-obstruction (Ogilvie's syndrome).

DISCUSSION

Colonic pseudo-obstruction (Ogilvie's syndrome) is an uncommon condition. It is a syndrome of which the clinical features and radiographic appearance re-

semble those of colonic obstruction, but there is no evidence of mechanical cause of obstruction⁽¹⁾. It was first described by Sir Ogilvie in 1948, hence the name "Ogilvie's syndrome"⁽⁹⁾. The pathogenic mechanism of this syndrome remains unknown. It is possible that certain conditions may lead to the imbalance of the autonomic nervous system supplying the colon⁽³⁾. Colonic motility is under autonomic regulation, being increased by parasympathetic and inhibited by sympathetic nervous system. Conditions, such as various metabolic, surgical, and medical problems, may alter the fine balance between these two systems leading to excessive parasympathetic suppression, sympathetic stimulation or both. This imbalance may lead to extreme suppression of colonic motility resulting in colonic atony or pseudo-obstruction^(5,6). Our patient had multiple underlying medical conditions which may partially explain the occurrence of colonic pseudo-obstruction. The pathologic examination of a few reported cases of colonic pseudo-obstruction showed intramural ganglion damage⁽⁸⁾. This finding is not clear whether it is the cause or the effect of the disease process.

Plain abdominal radiograph of colonic pseudo-obstruction has been described extensively in the English literature⁽²⁻⁷⁾. It is often the first imaging modality performed and usually shows markedly dilated cecum, and diffuse dilatation of other parts of the colon (ascending and transverse colon). Presence of gas in the rectum usually means there is no mechanical obstruction. However, absence of gas in the rectum does not necessarily represent mechanical obstruction⁽⁷⁾. As shown in our case, scout view CT, which is comparable to plain abdomen, shows markedly dilated large bowel which mimics the sigmoid loop. This dilated bowel loop in conjunction with absence of air in the rectum makes sigmoid volvulus an attractive choice of diagnosis. However, plain abdomen is not accurate and analysis of CT reveals that the dilated loop seen at the plain scout view is actually a dilated redundant transverse colon that extends downward to the lower abdomen. Moreover, CT helps clarify that there is no obstructing colonic lesion. The two safety-pins noted within the colon were likely to be secondary to oral intake, but it was not clear how and when these unusual objects were consumed.

The transitional zone of this particular case is at the junction of sigmoid to descending colon, the site where the mobile colon becomes fixed, which was also observed in Addison's series⁽²⁾. The change of caliber

is gradual and intermediate character (moderate change in size from dilated to normal), which is characteristic of colonic pseudo-obstruction, in contrast to that is caused by adhesion, which is abrupt and acute character (marked change in size from dilated to normal)⁽⁸⁾. CT is also a very good tool to exclude the complication of colonic perforation which could occur in patients with markedly dilated colon. As in our patient, CT showed no evidence of perforation and mechanical cause of obstruction, therefore, the patient was treated conservatively with colonoscopic decompression and medical treatment.

In conclusion, colonic pseudo-obstruction may lead to unnecessary surgical intervention if missed diagnosed as a true mechanical obstruction. CT plays an important role in determining the exact nature and etiology of colonic dilatation that will lead to correct intervention and management.

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