

Hypothyroidism as a Rare Cause for Ogilvie Syndrome

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Abstract:

Background: Acute colonic pseudo-obstruction/Ogilvie syndrome presents as massive colonic dilatation without a identifiable cause. Hypothyroidism is a rare cause of colonic pseudo-obstruction. Here we present a case of Ogilvie Syndrome in a previously undiagnosed hypothyroid patient.

Case Report: A 45 year old female presented with features of intestinal obstruction clinically and radiologically. She underwent laparotomy and there were no features of mechanical obstruction. On retrospective analysis of her thyroid profile, she was found to be hypothyroid and was frankly started on thyroid supplementation. Bowel motility was regained subsequently. A retrospective analysis of literature for hypothyroidism as a cause for colonic pseudo-obstruction was done and here we present the case report

Conclusion: Hypothyroidism is a rare cause of intestinal obstruction which can be easily reversed with thyroid supplementation and should be considered in every case of suspected non-mechanical intestinal obstruction

Keywords: Hypothyroidism, Ogilvie syndrome

I. Introduction

Intestinal pseudo-obstruction was described in 1938 by the German surgeon W. Weiss who reported mega-duodenum in 6 persons in 3 generations of a German family and described it as an inherited subset of intestinal pseudo-obstruction(1). However in 1948, Sir Heneage Ogilvie described the condition of distention of the colon, with signs and symptoms of colonic obstruction, in the absence of an actual physical cause of the obstruction. He described two patients with clinical features of colonic obstruction despite a normal barium enema. Both patients underwent laparotomy for the condition; neither had mechanical obstruction, but both had unsuspected malignant disease involving the area of the celiac axis and semilunar ganglion. The cause of the dilation was attributed to the malignant infiltration of the sympathetic ganglia. Subsequently there have been numerous descriptions of cases of colonic distention in the absence of mechanical obstruction and without malignant involvement of the visceral autonomic nerves(2).

Hypothyroidism is characterised by low circulating levels of thyroid hormones. The main clinical features are tiredness, weakness, dry skin, puffy face etc (3,4).

Few cases of hypothyroidism and intestinal obstruction have been reported(5,6,7). Here we sensitize the medical fraternity to such a case.

II. Case Report

A 45 year old moderately built and nourished female presented with history of pain abdomen and vomiting since 6 days; abdominal distension and constipation since 3 days. She had no other comorbidities. She had undergone open tubectomy 20 years back.

On examination, her pulse rate was 96 bpm, BP 130/70 mm hg. Abdomen was distended, movements with respiration decreased with diffuse tenderness and tympanic note on percussion. Bowel sounds were sluggish. Rectum was empty. X-Rays revealed multiple air fluid levels s/o intestinal obstruction. USG showed dilated, aperistaltic bowel loops with mild ascites. A diagnosis of intestinal obstruction was made and exploratory laparotomy done. Dilated proximal colonic loops without any evidence of distal obstruction noted. Enterotomy and colonic decompression was done. Post op, patient continued to have sluggish peristalsis. Analysis for the cause of pseudo-obstruction was done. 2nd post op day TFT values showed grossly elevated TSH(64.01 microIU/ml) with very low T₃(0.828 nmol/L), T₄(14.67 nmol/L) values. Eltroxin 50mcg started from 3rd post-op day. Patient recovered gradually and continued eltroxin



Figure 1: Photograph of the patient

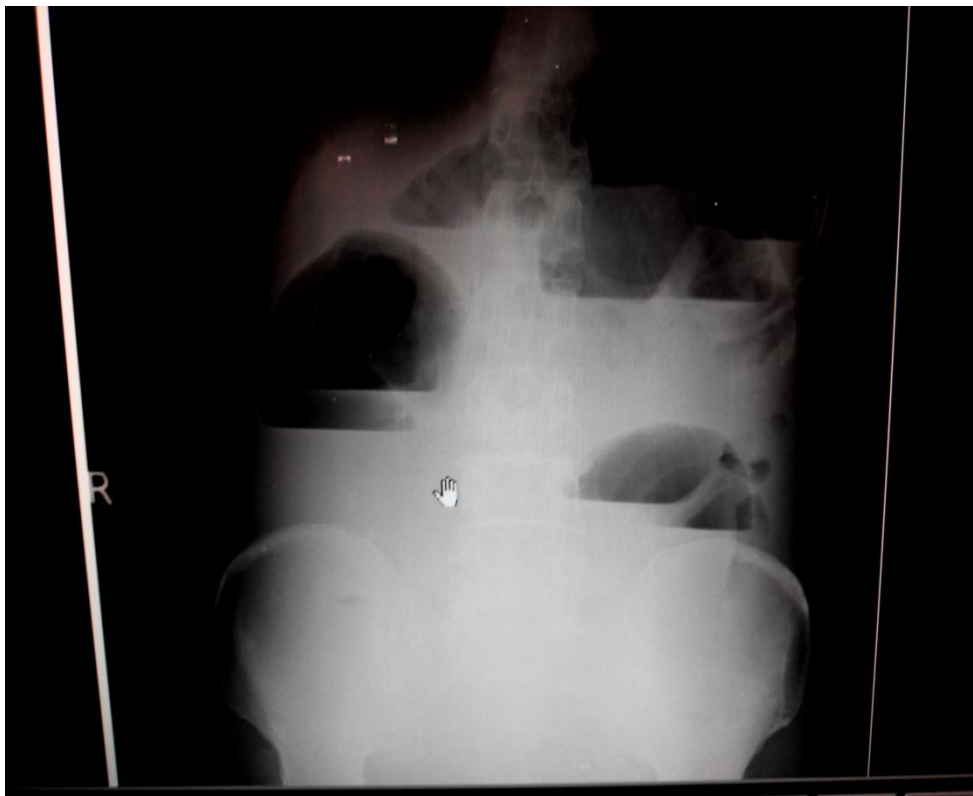


Figure 2: Erect X Ray Abdomen showing multiple air fluid levels

III. Discussion

The prevalence of colonic pseudo-obstruction is difficult to know. It is commonly found in patients undergoing major surgeries, surgical procedures which require prolonged bed rest. Middle patients with advanced malignancies, and in spinal trauma patients. It is usually associated with aged or elderly patients are commonly diagnosed with the disorder. The mean age of affected patients is 56.5 years for males and 59.9 years for females with a male to female ratio of 2:1(8). Pseudo obstruction may present with acute or chronic forms. It can be primary or secondary. Primary pseudo-obstruction is a motility disorder that is either a familial visceral

myopathy (hollow visceral myopathy syndrome) or a diffuse motility disorder involving the autonomic innervation of the intestinal wall. Secondary pseudo-obstruction is more common and has been associated with variety of causes(2, 9)

Pathophysiology involves neurogenic and myogenic factors. Primary pseudo-obstruction is usually due to myogenic factors. Neurogenic cause is due to the imbalance between sympathetic and parasympathetic innervations supplying colonic smooth muscle. It is caused by increased sympathetic tone or decreased parasympathetic tone(10). Acute colonic pseudo-obstruction is a diagnosis of exclusion(11). Massive gaseous distention of the colon is usually secondary to distal colonic or rectal obstruction, volvulus, or pseudo-obstruction(12).

In this case patient had massive colonic distension without evidence of distal obstruction and there was no history suggestive of any of the above mentioned causes for pseudoobstruction.

Hypothyroidism has a variety of effects on GI system. GI manifestations of hypothyroidism include sluggish intestinal motility ranging from mild obstipation to paralytic ileus and intestinal pseudo-obstruction(13). Severe hypothyroidism may present with intestinal atony, ileus(14), often misinterpreted as intestinal obstruction. Although most patients with hypothyroidism average one bowel movement daily, about one eighth have fewer than three movements weekly. Several theories have been proposed to explain the changes of the intestine in hypothyroidism, including autonomic neuropathy, altered impulse transmission at the myoneural junction, intestinal ischemia and intestinal myopathy(13). Hypotonic changes in the bladder smooth muscle in myxedema can also occur due to similar mechanisms(15)

Conservative management is followed in colonic pseudo-obstruction unless there are signs of perforation or obstruction. Medical treatment include treatment with neostigmine, a cholinergic stimulant (catchpole regimen). Other drugs used are domperidone, metoclopramide, erythromycin. Some patients may need colonoscopic decompression. Surgery is reserved for patients who do not respond to these modalities or those for those who present with perforation or obstruction. Surgery is also required if cecal diameter is >12 cm. (16, 8, 17) If underlying myxedema is not recognised and treated, decompressive procedures will not be definitive and recurrence is likely(18). Hypothyroidism is easily treated with levothyroxine. Levothyroxine is preferred because of its consistent potency and prolonged duration of action, average adult dose is 50-100 mcg. $T_{1/2}$ of levothyroxine is 7 days and steady levels are reached in 5-8 weeks(19).

IV. Conclusion

Hypothyroidism should be considered in the etiology of colonic obstruction if a non-mechanical cause is suspected. Thyroxine replacement therapy promptly reverses the condition and should be started as soon as the diagnosis is confirmed.

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