Acute colonic pseudo-obstruction as a presenting feature of meningoencephalitis

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Abstract

Acute colonic pseudo-obstruction is characterized by the signs and symptoms of a mechanical obstruction of the small or large bowel in the absence of a mechanical cause. It occurs in association with a wide spectrum of clinical conditions. This case illustrates an atypical presentation of this disease. Despite its rarity, meningoencephalitis should be considered in the differential diagnosis of acute colonic pseudo-obstruction accompanied with acute urine retention, especially in patients with predisposing factors.

Keywords: acute colonic pseudo-obstruction; meningoencephalitis

1. Introduction

Acute colonic pseudo-obstruction (ACPO) is characterized by gross dilatation of the colon or part of the colon. Autonomic nervous system dysfunction with inhibition of parasympathetic fibers arising from the spinal sacral segments appears to be the causative mechanism for colonic atony. Patients presenting with ACPO typically have underlying medical and surgical conditions that predispose them to the syndrome. Here, we report a case of a 46-year-old man who visited our emergency department (ED) with abdominal distension and pain. He had history of chronic urticaria and long-term oral steroid treatment.

2. Case report

A 46-year-old man was admitted to another hospital for intermittent fever, general weakness and headache one week prior. He was administered oseltamivir for the treatment of suspected influenza. However, three days later, he developed nausea, abdominal distension, pain, and urine retention, and was referral to our hospital for further study. He had history of chronic urticaria, abdominal distension, and orthostatic hypotension.

At the emergency department (ED), his blood pressure, heart rate, and body temperature were 140/74 mmHg, 88 beat/min, and 39°C, respectively. Physical examination revealed right lower abdominal tenderness and rebounding pain without bowel sounds. Laboratory tests at admission were as follows: hemoglobin, 12.1 g/dL; white blood cell (WBC) count, 10,600/mm³ (neutrophils, 84); platelets, 301,000/mm³; blood urea nitrogen, 11 mg/dL; creatinine, 0.7 mg/dL; sodium, 129 mEq/L; potassium, 3.4 mEq/L; and C-reactive protein, 0.19 mg/dL. Plain radiographs of his abdomen showed dilatation of all colonic segments with cecal diameter of 8 cm (Figure 1). Nasogastric and rectal tubes were placed for...
decompression. Computed tomography of the abdomen revealed dilated, fluid-filled, and thick-walled small and large bowel loops, as well as mild abdominal ascites (Figure 2). Regular colon series with barium enema showed diffuse distended colon without any mechanical cause; thus, pseudo-obstruction was suspected.

There was no obvious deficiency in his mental status nor was neck stiffness detected at his initial presentation. He became progressively disoriented (Glasgow coma scale rating of E3V3M6). He had dyspnea due to collapse in his right lower lung and was intubated two days after presenting to the hospital. Cerebrospinal fluid examination revealed a WBC count of 54 cells /mm$^3$ (lymphocytes 100%, neutrophils 0%) and glucose and total protein concentrations of 53mg/dL (blood glucose: 92 mg/dL) and 107 mg/dL, respectively. Magnetic resonance imaging of the brain revealed linear meningeal enhancement in the left occipital lobe and increased cranial vascularity due to hyperemic change (Figure 3). This combined evidence confirmed the diagnosis of acute colonic pseudo obstruction secondary to the acute neurological condition. He was administered broad-spectrum antibiotics, prokinetic agent (metoclopramide and erythromycin), and intravenous fluid hydration. After seven days, he started feeding after alleviation of his distension and pain. Empiric acyclovir was used for treatment of potential herpes simplex virus-related meningoencephalitis even though all bacterial, fungal, viral, and mycobacterial cultures were negative. Urodynamic study revealed detrusor sphincter dyssynergia. Four weeks after the onset of his illness, he noticed orthostatic dizziness and lower limb weakness for the first time, while performing his rehabilitation exercises. His blood pressure was 118/65 mmHg in a supine position and 78/45 mmHg while standing, with heart rates of 80 and 120 bpm, respectively. The electroencephalographic report showed diffuse cerebrocortical dysfunction. A nerve conduction velocity study revealed symmetrical delayed lower-extremity somatosensory evoked potential latencies, which were suggestive of myelopathy or...
polyneuropathy. Steroid pulse therapy was prescribed for acute lumbosacral transverse myelitis; however, it was not effective. The patient was discharged after 35 days with sequelae of neurogenic bladder and orthostatic hypotension.

3. Discussion

Meningoencephalitis is a medical emergency that requiring rapid diagnosis and treatment. It should be considered in the differential diagnosis of ACPO, as shown in this case, even though it often presents initially with neurological symptoms.

Although the exact pathogenesis of ACPO is not clearly understood, it is postulated that a disruption of parasympathetic supply to the colon may cause atony of the colon, leading to functional obstruction. The most common predisposing conditions for ACPO include non-operative trauma (11.3%), infection (10%), cardiac disease (10%), neurological diseases (9.3%), and abdominal and orthopedic surgery (9.3% and 7.3% respectively). Treatment of ACPO is often conservative, with supportive care that includes administering nothing by mouth, intravenous hydration, discontinuation of narcotics, sedatives or anticholinergic medications, and avoidance of precipitating factors. Colonic decompression is the initial invasive procedure of choice for patients with marked cecal distention of significant duration (>3–4 days), lack of improvement after 24–48 h of supportive therapy, and those with contraindications or who fail pharmacological therapy (neostigmine).

The symptoms of viral meningoencephalitis are similar to those of flu, including fever, muscle aches, runny nose, and cough. In some cases, symptoms worsen slowly. Diagnosis is suspected in the context of a febrile disease accompanied by headache, altered level of consciousness, and symptoms and signs of cerebral dysfunction. Correct, immediate diagnosis and initiation of therapy have a dramatic influence on survival and reduce the extent of permanent brain injury. Our patient presented with bladder and bowel disturbances three days after an infection. Therefore, a high index of suspicion, thorough history, and clinical examination are necessary to ensure accurate diagnosis.

In conclusion, ACPO is known to occur in association with a wide spectrum of clinical conditions. Based on this case report, physicians should be aware of the precipitating factors of ACPO in order to minimize morbidity and mortality.

Conflicts of interest

The authors declare that they have no conflicts of interest concerning this article. The study was not supported by departmental research funds.

References