

CASE REPORT

Conservative or Operative Management in Left-Sided Ogilvie Syndrome in a Patient Affected by Alzheimer Syndrome: Indications and Limits of Neostigmine and Colonoscopic Decompression

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ABSTRACT

Ogilvie syndrome, or acute colonic pseudo-obstruction, is a severe distension of the colon caused by decreased large bowel motility in the absence of a mechanical obstruction. It can be a consequence of medical treatment such as with clozapine. An 82-year-old male with Alzheimer disease under treatment with antipsychotics (clozapine) was admitted with abdominal distension and constipation. On examination, the patient had distended abdomen and diffuse tenderness without rebound pain. He was afebrile. Laboratory blood tests were normal. Cardiac arrhythmia (frequent ventricular extrasystoles) was described. Abdominal X-ray showed a marked left bowel dilatation. The patient underwent intravenous saline therapy and nasogastric tube and anal tube placement. Furthermore, a colonoscopic decompression was performed, and stool and gas passed. The follow-up abdominal X-ray demonstrated the resolution of the obstruction. In patients affected by Ogilvie syndrome, after the failure of conservative management, the administration of intravenous neostigmine is indicated. Our case had frequent ventricular extrasystoles. Thus, in order to prevent the onset of fatal cardiac arrhythmias or heart block, a colonoscopic decompression was performed as second-line treatment. Surgical treatments are not preferred unless conservative or endoscopic managements fail.

Key words: Alzheimer, Clozapine, Colonic pseudo-obstruction, Extrasystole, Neostigmine, Colonoscopy

Received: October 19, 2012 • Accepted: January 24, 2013

ÖZET

Alzheimer Sendromlu Bir Hastada Sol Taraf Ogilvie Sendromunun Konservatif veya Operatif Yönetimi: Neostigmin ve Kolonoskopik Dekompresyonun Endikasyonları ve Limitleri

Ogilvie sendromu veya akut kolonik psödoobstrüksiyonu kolonun mekanik bir tıkanıklık yokluğunda, kalın bağırsak hareketliliğinin azalmanın neden olduğu ciddi bir distansiyon halidir. Bu klozapinin tıbbi tedavide kullanımı sonucunda olabilir. Antipsikotik (klozapin) ile tedavi altında Alzheimer hastalığı olan 82 yaşında bir erkek hasta karında şişkinlik ve kabızlık ile başvurdu. Fizik muayenesinde hastanın karında distansiyon ve rebound vermeyen yaygın hassasiyet mevcuttu. Ateşi yoktu. Laboratuvar sonuçları normaldi. Kardiyak aritmi (sık ventriküler ekstrasistoller) tanımlanıyordu. Abdominal grafileri sol bağırsak dilatasyonu lehine yorumlandı. Hastaya nazogastrik ve rektal tüp takılarak salin tedavisi başlandı. Ayrıca bir kolonoskopik dekompresyon yapıldı. Dışkı ve gaz deşarjı oldu. Kontrol grafilerde karın tıkanıklığının dağıldığı görüldü. Konservatif tedavinin başarısızlığa uğramasından sonra Ogilvie sendromlu hastalarda intravenöz neostigmin tedavisi endikedir. Olgumuzda sık ventriküler ekstrasistoller vardı ve ölümcül bir kardiyak aritmi veya kalp bloğu başlangıcını önlemek için ikinci basamak tedavi olarak bir kolonos-

kopik dekompresyon yapıldı. Sonuç olarak, konservatif veya endoskopik yönetimlerin başarısız olduğu durumlarda cerrahi tedaviler planlanmalıdır.

Anahtar kelimeler: Alzheimer, klozapin, kolonik psödoobstrüksiyon, ekstrasistol, neostigmin, kolonoskopi.

Geliş Tarihi: 19 Ekim 2012 • Kabul Ediliş Tarihi: 24 Ocak 2013

INTRODUCTION

Ogilvie syndrome, or acute colonic pseudo-obstruction, is a severe distension of the colon caused by decreased large bowel motility in the absence of a mechanical obstruction. It is usually localized in the cecum but is also found in other large bowel segments^[1]. It is frequently associated with central nervous system disease and with the administration of antipsychotics such as clozapine, levomepromazine, haloperidol, or levodopa^[2-6]. Untreated cases have a reported 15% perforation rate and 50% mortality^[2].

CASE REPORT

A 82-year-old male with Alzheimer disease was admitted to the Emergency Department of San Martino IST Hospital in Genoa with abdominal discomfort, abdominal distension and constipation. Home therapy comprised the administration of clozapine. On examination, the patient had a decreased mental status; he had distended abdomen, diffuse tenderness without rebound pain and reduction of bowel sounds. Blood pressure was normal and he was afebrile. Laboratory blood tests were nearly normal. Cardiac arrhythmia (frequent ventricular extrasystoles) was described on ECG. Plain abdominal radiography showed a marked left bowel dilatation (Figure 1). Computerized tomography (CT) of the abdomen showed a large amount of gas and stool in the colon without obstruction, masses or perforation. The patient underwent intravenous saline therapy and nasogastric tube and anal tube placement, but the obstruction persisted. The administration of neostigmine was evaluated, but the presence of frequent ventricular extrasystoles suggested performing a colonoscopic decompression followed by multiple enemas in order to prevent the onset of fatal cardiac arrhythmias and/or cardiac arrest; stool and gas were passed. The follow-up abdominal plain radiography performed after two days of therapy demonstrated the resolution of the pseudo-colonic obstruction (Figure 2). The patient was in stable condition.



Figure 1. Plain abdominal X-ray of an 82-year-old male with Alzheimer disease, constipation and abdominal discomfort showing severe left colonic dilatation (> 12 cm in diameter) from colonic pseudo-obstruction (Ogilvie syndrome). There was no free air under the diaphragm and no differential air fluid levels.



Figure 2. Post-colonoscopy plain abdominal X-ray. Absence of free air and of differential air fluid levels is shown; colonic diameter normalized after colonoscopic decompression.

DISCUSSION

Acute colonic pseudo-obstruction, despite its first description as right-sided, is also frequent in the left large bowel. It occurs in institutionalized or hospitalized patients with serious medical or surgical conditions such as central nervous system diseases (Alzheimer syndrome), electrolyte imbalances, anticholinergic medication regimens, and antipsychotics (haloperidol, clozapine, levomepromazine, cyamemazine) administration^[3-5]. The pathogenesis of acute large bowel pseudo-obstruction is unknown and is probably related to autonomic (parasympathetic and meta-sympathetic) system imbalance in the regulation of colonic smooth muscle peristalsis that disrupts normal bowel function. The differential diagnoses include toxic megacolon, severe constipation with fecal impaction into the rectum and mechanical bowel obstruction. In our case, severe Alzheimer disease with chronic medical anti-psychotics therapy (clozapine) was the main predisposing factor for the development of Ogilvie syndrome. Plain abdominal X-ray assessment is useful in emergency to indicate if a free under-diaphragmatic air is present (indicating a perforation), if differential air fluid levels are present (indicating an obstructive (mechanical) ileus), or if grossly dilated bowel loops are present (indicating a functional pseudo-obstruction of small or large bowel). CT scans in axial and coronal planes are also useful to assess the obstruction location. Literature data reported a higher risk of colonic perforation in patients with cecum diameter larger than 14 cm^[1]. Our case, with a wide large bowel dilatation, revealed no evidence of ischemia or perforation. However, other studies found no higher risk of perforation in patients with wide colonic dilatation and found that the perforation risk appeared to be higher in long-lasting colonic (cecal) distension rather than in larger colonic distension^[7,8]. The initial management of acute colonic pseudo-obstruction includes intravenous saline administration, electrolytes correction, nasogastric tube, and enemas. In case of failure of conservative management, the administration of intravenous neostigmine (2 mg in 5 minutes) is indicated, with a high success rate reported^[9,10]. Neostigmine is actually a second-line therapy for colonic pseudo-obstruction, but it has side effects as vomiting, abdominal pain, excessive salivation, bradycardia, asystole, hypotension, and seizures^[9,11]. Arrhythmias could be a contraindication to neostigmine administration. In fact, the administration of

neostigmine has been described to be related to the development of cardiac arrest or to the onset of a drug-induced Q-T interval prolongation that is a precursor for the torsades de pointes (and heart block) and to the development of atrial fibrillation with a wide QRS complex and hypotension^[12-14]. Our case had frequent ventricular extrasystoles on ECG monitor, so we preferred to use, as a second-line treatment, a colonoscopic decompression, which was performed successfully. Colonic decompression is usually indicated when colonic cecal diameter is larger than 12 cm^[15]. In any case, colonoscopic decompression is advocated if neostigmine falls or when it is contraindicated because of the high risk of cardiac arrhythmias and also of cardiac arrest^[12-14,16,17]. Finally, surgical interventions as cecostomy, ileostomy, colonostomy, and colon resection are reserved for when conservative or endoscopic managements fail, and they have a greater reported morbidity and mortality, of 30% and 6%, respectively^[1].

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