An elderly woman with abdomen distension: Ogilvie’s or Chilaiditi syndrome?

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ABSTRACT

Although Ogilvie’s syndrome, or intestinal pseudo-obstruction, has been scarcely reported, it is not a rare condition. With the objective of raising awareness about this entity, the case study of an 85-year-old woman with hypokalaemia is reported and the main findings are emphasised. The differential diagnosis between Ogilvie’s and Chilaiditi syndrome is highlighted because of the features shared by these conditions. The patient received general clinical support and her hydro-electrolyte balance was maintained, with a good outcome after four days of conservative treatment. Early diagnosis and prompt correction of predisposing factors contributed to the successful clinical management of the Ogilvie’s syndrome affecting this fragile elderly patient.

Key words. Ogilvie’s syndrome; Chilaiditi syndrome; abdominal distension; hypokalaemia; intestinal pseudo-obstruction.

RESUMO

Mulher idosa com distensão abdominal: síndrome de Ogilvie ou de Chilaiditi?

Embora a síndrome de Ogilvie ou pseudo-obstrução intestinal tenha sido poucas vezes relatada, não se trata de condição muito rara. Relata-se o estudo de caso de uma mulher de 85 anos com hipocalemia em que os principais aspectos são enfatizados, com o objetivo de aumentar o índice de suspeita sobre essa entidade. O diagnóstico diferencial entre as síndromes de Ogilvie e de Chilaiditi é realçado, em virtude dos aspectos comuns a essas duas condições. A paciente recebeu suporte clínico geral e reposição hidroeletrolítica com bom resultado, após quatro dias de tratamento conservador. O diagnóstico precoce e a pronta correção de fatores predisponentes contribuíram para o sucesso do manejo clínico da síndrome de Ogilvie que afetou essa frágil paciente.

Palavras-chave. Síndrome de Ogilvie; síndrome de Chilaiditi; distensão abdominal; hipocalemia; pseudo-obstrução intestinal.
INTRODUCTION

Ogilvie’s syndrome is a rare condition that was first described in 1948. It is characterized by acute pseudo-obstruction and massive colon dilation.1,2 Chilaiditi syndrome is a rare entity that was first described in 1910. It consists of hepatodiaphragmatic interposition of distended colon.3-5 Similar non-specific gastrointestinal disturbances are observed in both syndromes, including anorexia, abdominal pain, vomiting, bowel distension, air-fluid levels, and constipation.

Four very rare examples of acute abdomen distension have been recently described: pseudopneumoperitoneum in Chilaiditi syndrome,6 Ogilvie’s syndrome associated with coronary revascularization,7 Chilaiditi syndrome associated with coloscopic mucosal resection,8 and Ogilvie’s syndrome associated with Chilaiditi syndrome.9 Interestingly, these four patients were elderly individuals (68, 68, 74, and 78 years of age, respectively), and differential diagnosis could be established based on classical abdomen images.

Pseudopneumoperitoneum refers to the presence of air under the diaphragm, with no free air in the abdominal cavity; it can be mistaken for pneumoperitoneum due to a perforated viscus.6 Pneumoperitoneum can occur in Chilaiditi syndrome with bowel perforation,8 but the association between Ogilvie’s syndrome and Chilaiditi syndrome is exceedingly rare.7,9 Ogilvie’s syndrome more often develops in debilitated, elderly individuals due to medication side-effects, metabolic or neurological disorders, surgery or trauma.1,10 Bowel perforation can occur as a severe complication of Ogilvie’s syndrome1 and may evolve unnoticed.

CASE REPORT

An 85-year-old woman was admitted to the hospital presenting with loss of appetite, asthenia, vomiting, abdominal pain and distension. There was also no elimination of flatus or stools. Her general condition was poor. She was pale, dehydrated, and breathless. There was no use of anticholinergic or diuretic drugs or any drugs that could cause hypokalaemia. Her abdomen was distended and hyperresonant, but not rigid, and the percussion note at the right hypochondrium over the liver area was also tympanitic. A nasogastric tube was positioned and it drained a large amount of dark fluid. An upper gastrointestinal study revealed severe erosive oesophagitis and a large hiatus hernia with evidence of recent bleeding. Laboratory data (Table) showed anaemia, neutrophilia, hypokalaemia and hypochloraemia, without remarkable changes in other electrolytes. Serum protein levels and thyroid function tests were normal, and blood cultures were negative. An abdominal radiography

Table. Laboratory data of an 85-year-old woman with Ogilvie’s syndrome

<table>
<thead>
<tr>
<th>PARAMETERS</th>
<th>MAY 6, 2008</th>
<th>MAY 9, 2008</th>
<th>NORMAL RANGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red blood cells (mm³)</td>
<td>4,200000</td>
<td>3,600000</td>
<td>4,200000-5,700000</td>
</tr>
<tr>
<td>Haemoglobin (g/dL)</td>
<td>11.6</td>
<td>10.0</td>
<td>13.2-16.9</td>
</tr>
<tr>
<td>Haematocrit (%)</td>
<td>33.7</td>
<td>30.0</td>
<td>38.5-49</td>
</tr>
<tr>
<td>MCV (fl)</td>
<td>80</td>
<td>84</td>
<td>80-97</td>
</tr>
<tr>
<td>MCHC (%)</td>
<td>34</td>
<td>33</td>
<td>32-36</td>
</tr>
<tr>
<td>White blood cells (mm³)</td>
<td>9500</td>
<td>13700</td>
<td>3900-10000</td>
</tr>
<tr>
<td>Neutrophils (%)</td>
<td>81</td>
<td>97</td>
<td>38-80</td>
</tr>
<tr>
<td>Platelets (mm³)</td>
<td>284000</td>
<td>272000</td>
<td>140000-390000</td>
</tr>
<tr>
<td>Sodium (mmol/L)</td>
<td>135</td>
<td>142</td>
<td>135-145</td>
</tr>
<tr>
<td>Potassium (mmol/L)</td>
<td>2.8</td>
<td>4.3</td>
<td>3.5-5.0</td>
</tr>
<tr>
<td>Chlorides (mmol/L)</td>
<td>85.1</td>
<td>100.7</td>
<td>98-108</td>
</tr>
<tr>
<td>Urea (BUN) (mg/dL)</td>
<td>90.0</td>
<td>63.8</td>
<td>10-45</td>
</tr>
<tr>
<td>Creatinine (mg/dL)</td>
<td>0.7</td>
<td>0.7</td>
<td>0.8-1.2</td>
</tr>
<tr>
<td>Glucose (mg/dL)</td>
<td>70</td>
<td>77</td>
<td>70-99</td>
</tr>
</tbody>
</table>

MCV – mean corpuscular volume. MCHC – mean corpuscular haemoglobin concentration. Remarkable data are in bold.
study showed accentuated colon distension (Figure 1). Computed tomography scans revealed moderate distension of the small intestine and conspicuous colon air-fluid levels (Figure 2 A-B), suggesting mechanical obstruction of distal large bowel. However, lower gastrointestinal evaluation ruled out this hypothesis, and the diagnosis of colon pseudo-obstruction was established. Initial conservative management included intravenous hydration with potassium chloride (KCl) administration and nasogastric suction. On day 4, total parenteral nutrition plus KCl 15% was utilised, and on day 10 oral intakes were reestablished. The patient showed considerable improvement following this non-invasive treatment. Computed tomography images of control confirmed the absence of any intestinal abnormality (Figure 2 C-D). Although her hospital discharge occurred after clinical improvement, her general condition did not allow immediate surgical correction of her large hiatus hernia. Therefore, she was referred to outpatient specialized surveillance because of possible recurrences.

**DISCUSSION**

Ogilvie’s syndrome is described in a debilitated, elderly, female patient who rapidly improved following continuous nasogastric decompression, total intravenous nutrition, and potassium reposition. Hypokalaemia was associated with fluid loss to third-space, lack of appetite and vomiting, associated with a large hiatus hernia, gastro-oesophageal reflux and severe erosive oesophagitis. Her abdomen was distended and there was hyper-resonance on percussion over the right hypochondrium region. Therefore, it was important to establish a differential diagnosis between Ogilvie’s syndrome and Chilaiditi syndrome, in addition to considering the eventual occurrence of pneumoperitoneum. Hypotheses for tympanic percussion sound over the right hypochondrium include Ogilvie’s syndrome with bowel perforation, Ogilvie’s syndrome concomitant with Chilaiditi syndrome, caecum perforation associated with Chilaiditi syndrome, and Chilaiditi syndrome associated with closed-loop small bowel obstruction. However, imaging findings of total abdomen and of lower gastrointestinal studies contributed to rule out all those differential possibilities.

Another concern was about the caecum diameter of 11 cm, which was almost indicative (12 to 14 cm) of an emergency surgery. Nevertheless, prompt clinical management reduced bowel dilation in less than 72 hours. As neither massive caecum dilation nor perforation or peritonitis were present,
decompression techniques or laparotomy were not needed.\textsuperscript{10,12} Although Ogilvie’s syndrome may occur in isolation, it has been more often associated with some other clinical disturbances. Colon and small bowel functional dilations have been associated with inhibition of intestinal motility, systemic and metabolic disorders, severe diseases, trauma, and postoperative immobility.\textsuperscript{10,11,13} Outcomes are often favorable, with better responses to early conservative procedures, including control of basic disorders, prokinetics, acetyl cholinesterase inhibitors, and decompression either by laparoscopy or endoscopy.\textsuperscript{10,11,13} Non-invasive decompression is the first choice, while caecostomy or laparotomy are indicated if pseudo-obstruction is not relieved by clinical measures or if bowel perforation occurs.\textsuperscript{10}

Yeh et al. reported the successful conservative treatment of Ogilvie’s syndrome in a 67-year-old male patient with anaemia, high creatinine levels, and hypokalaemia. Similarly to the patient described in this work, caecum diameter was around 11 cm, there was gastrointestinal loss of potassium and he underwent nasogastric decompression, parenteral nutrition, and electrolyte correction. It is worth mentioning that neostigmine, decompressive colonoscopy or surgery were not performed; however, an anal tube, frozen plasma and antibiotics were used.\textsuperscript{10} Atamanalp et al. reviewed the case of 15 patients (53.3% male, mean age 49.9 years) with Ogilvie’s syndrome due to clinical disorders (33.3%), abdominal surgery (26.7%) or burns (13.3%); no cause was found in 26.7%.\textsuperscript{14} Krige et al. reviewed the case of 29 patients (55.2% male, mean age 63 years) with Ogilvie’s syndrome due to severe illness (79.3%), major surgery or trauma; 74.4% were conservatively treated. Early diagnosis reduced the risk of caecum rupture.\textsuperscript{12} Fraisse et al. studied 40 patients (60% male; mean age 80.8 years) and found hypokalaemia in 52.5% of cases.\textsuperscript{15} Diarrhea was absent in our patient, but abdominal computed tomography showed conspicuous air-fluid levels, which may cause loss of potassium-containing fluids. As previously described,\textsuperscript{11} images of adynamic ileus were seen in our patient, but were not observed by Grassi et al. in six patients with Ogilvie’s syndrome.\textsuperscript{16} The average age of men with Ogilvie’s syndrome is 59.9 years,\textsuperscript{1} while the mean age of males described by Blondon et al. was 87.5 years.\textsuperscript{13} The female patient described in this work is older than 56.5 years, which is the mean age of females with Ogilvie’s syndrome.\textsuperscript{13} The mortality rate of 85 patients included in four of the studies mentioned was 15.3%,\textsuperscript{10,12,14,15} showing the potential severity of Ogilvie’s syndrome. Debilitated old people are more prone to hydro-electrolyte disorders and to bowel ischaemia; therefore, healthcare professionals must be aware of the risk of Ogilvie’s syndrome in this age group.\textsuperscript{16}

\textbf{REFERENCES}