

Research Article

Acute Obstructive Abdomen in the Geriatric Patient

Ingrid Nakabayashi Kraemer Esquillaro¹, Laiane Bicho Janegitz² and Dr. Valdemir José Alegre Salles^{*2,3}¹General Practice – Family Health Physician, São Paulo, Brazil²General and Thoracic Surgeon, Hospital Regional do Vale do Paraíba, São Paulo, Brazil³Assistant Professor, Department of Medicine, University of Taubaté, São Paulo, Brazil

*Corresponding Author
Dr. Valdemir José Alegre Salles

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Abstract: *Introduction:* Acute intestinal obstruction travels with interruption in the enteric flow. The clinical condition is composed by abdominal pain, stopping the elimination of gases and feces, abdominal distension and nausea. However, the geriatric population may have atypical clinical features, which makes diagnosis difficult and increases mortality. The most common etiologies of the acute obstructive abdomen in the elderly differ from the adult, because in those there is predominance of neoplasias and diverticular diseases complications. *Objectives:* Setting the profile of patients older than 60 years with acute obstructive abdomen, the main causes, outcome and treatment. *Methodology:* Retrospective study where 60 medical records were analyzed with acute obstructive abdomen. *Results:* Regarding the main symptoms, it was observed that 86% had abdominal pain; 86% halt of stomach gas and stools; abdominal distention was observed in 51%; 60% showed vomiting; 37% presented other. Among the radiological findings, the most prevalent were: the presence of small bowel loops distension and colonic distension. Regarding the etiology, the main one was the presence of neoplasia, representing 30.2%; flanges and adhesions (23.2%), sigmoid volvo (9.3%), sigmoid diverticulum (7%). The treatment performed was surgical (86% cases). *Conclusion:* In the present study, neoplasia was the main etiology, followed by flanges and adhesions, differing from the literature in which there's predominance of flanges and adhesions. The most frequent symptoms were: abdominal pain, halt of stomach gas and stools, vomiting and abdominal distension. Mortality in elderly patients with abdominal pain is high; in this survey was 32%.

Keywords: acute abdomen, intestinal obstruction, geriatric and laparotomy.

INTRODUCTION

The syndromic condition of the obstructive acute abdomen encompasses diseases that progress with an interruption or delay in enteric flow and the earlier the diagnosis, which determines the treatment, the lower the possibility of developing complications. The bindings/adhesions are the main determinants in all age groups; followed by strangulated inguinal hernia and digestive tract neoplasia (Vidal, M. 2005). The most frequent causes in the elderly are different from those presented in other age groups, with an increase in the frequency of obstruction due to neoplastic digestive diseases, diseases of the biliary tract, colitis and complications of diverticular disease of the left colon (Espinoza, R. *et al.*, 2004). The typical clinical picture is manifested with abdominal pain of variable intensity, stop in the elimination of gases and feces, vomiting and abdominal distension. The pain is usually colicky and of debilitating intensity (Corleta, O. C., & Ghezzi, T. L. 2013). We are experiencing an unprecedented demographic transformation, and by 2050 the number of people aged 60 and over will increase from 600 million to nearly 2 billion, and the percentage of people aged 60 and over is projected to double from 10% to 21%. The growth of the geriatric population brings challenges for health professionals. It was observed that the population over 65 years old requires more and more surgical procedures and it is known that in them the clinical presentations are atypical, with functional or acute cognitive impairment often being the first sign of a surgical condition, and these patients are high risk. At least half of them will need hospitalization and between 30 and 40% will need surgery (Cedeño, G. A. V., & Palermo, E. G. 2020).

METHODS:

Retrospective cross-sectional study where 60 electronic medical records of geriatric patients hospitalized with an Acute Obstructive Abdomen, treated at the Emergency Department of the Hospital Regional do Vale do Paraíba, São Paulo, Brazil, were analyzed. The work was submitted to the Ethics Committee and approved by Plataforma Brasil under CAAE: 70270217.8.0000.5501.

RESULTS:

Of the 60 records analyzed, 28 (46%) belonged to male patients and 32 (56%) to female patients. The mean age of the analyzed population was 74.8 years. The main symptoms presented at hospital admission were: abdominal pain in 52 patients (86%); cessation of elimination of gases and feces in 52 (86%); abdominal distention was observed in 31 (51%); 36 (60%) with vomiting; 5 (9%) with chronic diarrhea and 3 (5%) with fever; 22 (37%) had other, uncharacteristic symptoms such as lack of appetite, weight loss and chronic constipation.

A history of previous abdominal surgery was present in 32 (53%) patients. Of these, 26 (43.5%) had intestinal adhesions as the final etiological diagnosis and 18 (30.4%) had digestive tract neoplasms.

In the analysis of imaging tests performed at hospital admission, we found that 44 (74%) patients underwent simple abdominal radiological examination, 24 (40%) underwent abdominal computed tomography, 3 (5%) underwent abdominal ultrasound. Among the most observed radiological findings, 52% had small bowel distention, 52% colonic distension, 40% presence of air-fluid levels, 16% absence of air in the rectal ampulla, 12% pneumoperitoneum, 8% gastric distension and 4% sign of stacking of coins.

Considering the treatment, immediate surgery was performed in 52 (86%) patients and exclusive clinical treatment in 8 (14%). Regarding the postoperative evolution, 38 (63%) patients were discharged from the hospital, 20 (32%) died, and of these 20, 8 (40%) had advanced neoplastic disease. Of those patients who were discharged, 2 (25%) were readmitted within 2 months with a new condition of obstructive acute abdomen. The mean period of hospitalization was 10 days.

The main cause of intestinal obstruction was colon cancer, representing 30.2% (15) of patients. The other causes identified in decreasing order of prevalence were: adhesions (23.2%), sigmoid volvulus (9.3%), sigmoid diverticulum (7%), nonspecific intestinal subocclusion (7%), extrinsic compression by mass abdominal (4.6%) and others, such as: strangulated incisional hernia, biliary ileus, intestinal inflammatory process, found in 2.3% of cases.

DISCUSSION:

Almost all patients will develop intra-abdominal adhesions after abdominal surgery. The most common consequences are: more complex subsequent surgery, abdominal pain, small bowel obstruction, and infertility. A 35% readmission rate over 10 years after abdominal surgery has been reported to be directly or possibly related to adhesions. The risk of developing bowel obstruction that requires surgery varies from 1% after appendectomy to more than 10% after colectomy.

Colorectal cancer is one of the most common cancers worldwide, and its incidence has been increasing rapidly. At the time of diagnosis approximately 8% to 13% of all colorectal cancer patients present with malignant colorectal obstruction. It is usually located in the left-sided colon and requires urgent decompression because can lead to dehydration, electrolyte imbalance, shock, colorectal necrosis, bacterial translocation, organ failure, and death. Classically, emergency surgery was considered for a prompt decompression of obstruction, but it is associated with a higher risk of mortality and morbidity compared to elective surgery (Han, B. *et al.*, 2021).

Abdominal surgical trauma causes adhesion in almost all patients. Although the majority of patients are asymptomatic, a significant number suffer from small bowel obstruction, female infertility, and chronic pain. After abdominal surgery, obstruction has been observed in 9% of patients. A readmission rate of 30% during a 10-year period has been reported, and most cases occur within in the 1st year after abdominal surgery. Rectal cancer surgery causes the highest readmission rates]. Mortality rates in small bowel obstruction surgery are reported to be up to 10%, rising to 15%, when small bowel resection is performed, with a 33% risk of inadvertent enterotomy during surgery for bowel obstruction (Afshari, K. *et al.*, 2021).

Abdominal wall hernia is estimated to affect up to 1.5% of the world population, and more than 20 million hernias are repaired every year. The most frequent hernia is the inguinal hernia (70-75%) followed by femoral (6-17%), umbilical (3-8.5%), and then the rare forms (1-2%) (Dabbas, N. *et al.*, 2011).

The most frequent symptoms were: abdominal pain and cessation of gas and feces elimination, followed by vomiting and abdominal distension. Such symptoms also prevailed in other studies that evaluated elderly people with intestinal obstruction (Wilson, M. S. *et al.*, 1999; Lyon, C., & Clark, D. C. 2006).

Regarding the use of imaging methods to aid diagnosis, it was demonstrated that the simple X-ray of the abdomen and the Computed Tomography have similar sensitivity and specificity, however, according to Ahn *et al.*, it was demonstrated that the Computed Tomography has greater sensitivity in the identification of intestinal obstruction in relation to the simple X-ray of the abdomen (75% x 49%) (Lyon, C., & Clark, D. C. 2006; Ahn, S. H. *et al.*, 2002).

Abdominal computed tomography can play a key role in the management and diagnosis of patients with intestinal obstruction caused by any type of internal hernia although surgery may be the only option to make an accurate diagnosis and treat this type of hernia (Plua-Muñiz, K. *et al.*, 2020).

Acute small bowel obstruction as late as many months following capsule endoscopy investigation is very rare, with only a few cases reported in the published literature. Luminal stenosis due to a variety of conditions such as ulcers, tumors, Crohn's disease-related strictures, NSAID-induced enteropathy, radiation enteritis, or post-anastomotic strictures can facilitate obstruction. It has been stated that cancer due to small bowel tumors has the advantage that the impacted capsule aids in identifying the location of the bowel segment that needs to be resected. Contraindications to capsule include clinical or radiographic evidence of bowel obstruction, extensive and active Crohn's disease with or without strictures, and intestinal pseudo-obstruction (Bailey, A. A. *et al.*, 2006; Ho, K. K., & Joyce, A. M. 2007).

In a similar study, the percentage of clinically treated patients was 49%, higher than that presented in the present analysis, which estimated at 14%, however, they obtained a mortality of 12% in 6 months and a readmission rate of 39% (Springer, J. E. *et al.*, 2014). The current recommendation of early surgery seems reasonable. Recurrent obstruction was 7% at 1 year and 18% overall during follow-up, a third of these patients required surgery. About half of the recurrences appeared within the first 2 years, but there was a cumulative increase during follow-up (Sakari, T. *et al.*, 2020). Treatment for refractory cases and complete small bowel obstruction typically requires surgical intervention (Symeonidis, N. G. *et al.*, 2021).

Mortality in the geriatric population with intestinal obstruction is higher than in the others. Partly due to the lower organic reserve, the presence of co-morbidities with debilitating underlying diseases and the higher prevalence of neoplasia. In the literature, it is found that more than half of elderly patients admitted to the emergency room with abdominal pain require hospitalization and of these 20-33% will undergo immediate surgery (Ahn, S. H. *et al.*, 2020).

Regarding the postoperative diagnosis, it was found that a portion of the patients who had undergone previous abdominal surgery had a neoplastic disease as the cause of intestinal obstruction; we emphasize that the presence of previous surgery is not always related only to the occurrence of adhesions, and we cannot rule out the hypothesis of neoplastic disease in this population. It is noteworthy that due to the higher incidence of diagnosed gastrointestinal neoplastic disease, the mortality rate in this study was higher than in the literature.

CONCLUSION:

The most common symptoms in elderly patients with Acute Obstructive Abdomen were abdominal pain, gas and stool elimination, followed by vomiting and abdominal distension. Regarding therapy, we observed that the surgical approach was the main form of

treatment. In those cases in which clinical treatment was chosen, 25% of these patients were readmitted within less than two months after discharge, and the surgical procedure was then performed. The evolution to death in this study was directly related to the underlying disease in more than 50% of the cases.

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