

OGILVIE SYNDROME – AN INCREASINGLY PRESENCE IN THE EMERGENCY SURGICAL PATHOLOGY?

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Abstract: The Ogilvie Syndrome (acute colonic pseudo-obstruction) stands for a clinical entity which comprises the radiological and clinical signs of an acute large bowel obstruction, but without the presence of a real obstacle. The usual scenario is that of an acute patient, with marked colonic distension progressing towards a perforation with secondary hyperseptic fecaloid peritonitis, unless urgent treatment is instituted. The surgical management varies upon the stage of colonic involvement at that time of consult, ranging from decompression colonoscopy to total colectomy if the ischemic lesions are irreversible. The purpose of this paper is the attempt to make more known the issue of emergency differentiation of the intestinal pseudo-obstruction syndrome from the mechanical intestinal obstruction and avoiding the unnecessary laparotomy with significant risks in these patients, however, treated by associated comorbidity. We present 3 case reviews treated in our dept.

Cuvinte cheie: sindrom Ogilvie, urgență, cecostomie

Rezumat: Sindromul Ogilvie sau pseudo-obstrucția colonică acută este o afecțiune ce prezintă semnele clinice și radiologice ale obstrucției colonice acute, dar fără a avea un obstacol colonic real. Pacientul este adus în serviciul de urgență datorită distensiei colice marcate, care în lipsa tratamentului de urgență duce la perforație diastatică cu peritonită hiperseptică fecaloidă. Terapia chirurgicală depinde de momentul depistării afecțiunii și poate evolua de la o simplă colonoscopie în urgență, până la colectomie totală când leziunile ischemice la nivelul mucoasei colonice sunt ireversibile. **Scopul** acestei lucrări îl reprezintă încercarea de a face și mai cunoscută problematică diferențierii în urgență a sindromului de pseudo-obstrucție intestinală de ocluzia intestinală mecanică și evitarea în acest fel a laparotomiilor inutile și cu riscuri semnificative la acești pacienți, oricum țara prin comorbiditățile asociate. Sunt prezentate trei cazuri clinice întâlnite în patologia de urgență a Clinicii Chirurgie I din Sibiu.

INTRODUCTION

Ogilvie syndrome or acute colonic pseudo-obstruction stands for a clinical condition presenting symptoms and radiological signs of a low intestinal occlusion without evidence of mechanical obstruction. Ogilvie syndrome most often occurs in patients with neurological pathology, bedridden or who have undergone major surgery. The acute colonic pseudo-obstruction was first described in 1948 by Sir Heneage Ogilvie who showed for the first time two patients with chronic colic dilatation and malignant infiltration of the celiac plexus. He hypothesized that colonic dilatation was due to sympathetic deprivation. Subsequently, a more detailed study of the vegetative innervations showed that the sympathetic muscle increases the contractility of the intestinal smooth muscle, while the parasympathetic decreases the contractility. Therefore, colonic atony of the Ogilvie syndrome is the result of an imbalance in the vegetative nervous system, produced by various factors, which either makes the deprivation of the parasympathetic or sympathetic stimulation.

THE AIM OF THE STUDY

The purpose of the present paper is to make more known the problem of differentiate diagnosis of the pseudo obstructive intestinal syndrome and avoid the unnecessary

laparotomy leading to risk lowering in these patients, however affected by associate comorbidities.

CASE PRESENTATION

We present a clinical serie of four patients, who undergo emergency treatment conducted by the authors in the Surgery I Dept between 2009-2011.

Case I

Patient M. I. 81 years old, known with diabetes mellitus type II, hypertension, CIC, obesity, stroke resulted in right hemiparesis, bedridden, appears in the emergency unit complaining of abdominal diffuse pains, flatulence, and diarrhoea for about 5 days before presentation in the emergency service and 24 hours absence of intestinal transit for faeces and bowel gas. From the data of the exam conducted at the time of admission, we noticed a global abdomen enlarged, spontaneous and sensitive during palpation throughout the colic frame, with muscular defense, tympanites on percussion, positive Blumberg sign

Biological samples performed in the emergency were the following: Hb 11g/dl, Ht 38%, L 14000/mm³, Na 142mEq/l, K 3mEq/l, ure 90 mg/dl, amylasemia 27 UI, creatinine 0.46 mg/dl, glucose 256 mg/dl, TGP 47 U/l. Abdominal radiography "on empty" (fig.1) performed in emergency highlighting

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extremely dilated colic frame, with a 15 cm diameter caecum. The ultrasound does not provide additional information due to the presence of numerous gaseous overlapping

Figure no. 1 “On empty” emergency abdominal radiograph

Based on clinical and laboratory data the diagnosis of acute surgical abdomen is established and emergency surgical intervention is performed, given the colic sizes and particularly caecum retrograde dilation.

Intraoperative, when opening the peritoneal cavity is found: the whole colic frame dilated with a caecum for about 15 cm in the imminent burst, thin intestinal ansae with quasi-normal appearance and diameter without detecting an occlusive obstacle obvious in the colic frame. The diagnosis of **Ogilvie syndrome or acute colonic pseudo-obstruction** is established, decompression caecostomy is practiced and the air is discharged from the colon.

The postoperative evolution of the patient was favorable, with discharge on day 5 after surgery.

Case 2

Patient S.M., aged 77, known with C.I.C. with pectoral Angora, Alzheimer's disease, obesity with hip prosthesis shows forearm fracture in consolidation progress. Appears in the emergency room with the following complaints: very high intensity diffuse abdominal pains, irritation diarrhea, flatulence. Clinically, the patient has an enlarged global abdomen, which does not participate in respiratory movements, spontaneous and sensitive to palpation throughout the colic frame, positive Blumberg sign. From the biological samples we retain: leukocytosis 29000/mm³, amylasemia 23U/l, creatinine 0,41 mg/dl, glucose 116 mg/dl, urea 105 mg/dl. The abdominal X-ray performed on the empty in dorsal decubitus (Fig. 2) highlights multiple levels of hydro-air in the abdomen. The ultrasound examination in the ER shows marked dilation of intestinal loops.

Figure no.2 “On empty” emergency abdominal radiograph in lateral decubitus I



Based on clinical and laboratory data, the diagnosis of surgical acute abdomen is established and emergency surgical intervention is performed, because of the presence of peritoneal irritation signs.

Intraoperative, when opening the peritoneal cavity is found: the whole colic frame is extremely dilated; the intestinal

loops seem thin, without evident occlusive obstacle detected in the colic frame. We also noticed the presence of thick liquid in average amount, free throughout the peritoneal cavity. The diagnosis of Ogilvie syndrome or acute colonic pseudo-obstruction with permeation peritonitis, sepsis is established and we practice caecostomy decompression, air leakage from the contents of the colon, peritoneal cavity lavage and drainage, anal dilatation (fig.3).

Figure no.3 Intraoperative aspect



The postoperative evolution of the patient was unfavorable, complicated with the onset of sepsis, MSOF, death within 48 hours after surgery with cardiopulmonary arrest.

Case 3.

Patient V.N. aged 63, known with personality disorder schizophrenia, undergoing treatment with neuroleptics, obesity, comes in the emergency department with the following complaints: diffuse abdominal pains, colicative, flatulence, nausea and vomiting, absent bowel faeces and gas for about 48 hours. The objective exam conducted at the time of admission showed a global abdomen enlarged, spontaneous and sensitive during palpation throughout the colic frame, with muscular defense, tympanites on percussion. Biological samples are partially modified: leukocytosis 19000/mm³, amylasemia 23U/l, creatinine 0.9 mg/dl, glucose 116 mg/dl, urea 150 mg/dl. The empty abdominal X-ray (Fig. 4) performed in the ER highlights multiple aerocolics throughout the colic frame and a marked caecum distension. The ultrasound examination is insignificant due to intestinal gas distension

Figure no. 4 “On empty” emergency abdominal radiograph



Based on clinical and laboratory tests, Ogilvie syndrome diagnosis is established and we decide to perform an emergency colonoscopy, which finds a marked expansion of the entire colic frame without detecting an obstacle in the colon. Gas is evacuated with difficulty inside the colon and emergency medical treatment is started: neostigmine 2,5 mg i.v., electrolyte rebalancing, vitamin-therapy, neuroborants. Since the

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evolution was favorable the patient is transferred to the Gastroenterology Clinics

DISCUSSIONS

Ogilvie syndrome or acute colonic pseudo-obstruction stands for a clinical disorder with the signs, symptoms and radiographic appearance of an acute large bowel obstruction without the presence of a real obstacle. Ogilvie in 1948 assumed that the etiology of these pathological conditions was due to the imbalance between the sympathetic nervous system with sympathetic deprivation of the colon leading to an imposed parasympathetic tone and regional contraction with functional obstruction. Later it was found that sympathetic hyperactivity is considered to be the most frequently mechanism found in colonic pseudo-obstruction. This was demonstrated experimentally by the emergence of colonic pseudo-obstruction in patients undergoing epidural anesthesia, which paralyzes the sympathetic nerve fibers of the colon, but also in those who received neostigmine that increases the parasympathetic tone through anticholinergic effect.

The acute colonic pseudo-obstruction syndrome is an important cause of morbidity and mortality. Mortality reaches 40 % when perforation or ischemia is installed.

Therefore, medical treatment should be the first option in these patients. The objectives of the medical treatment are to improve intestinal motility, to provide a satisfactory nutrition and to fight bowel dybacteriosis (erythromycin associated with cisapride, octreotide, neostigmine). It is necessary to suppress oral feeding and to establish total parenteral nutrition, by providing nasogastric intubation and endorectal gas intubation. Prevention and treatment of intestinal dysbacteriosis caused by intestinal stasis is achieved by antibiotics (erythromycin, oral beta-lactamase, metronidazole). Drugs with possible side effects will be also suppressed: opioids, anti-cholinergic, calcium channel antagonists.

If the patient appears in the ER on time before caecum dilation has exceeded 12 cm, and no irreversible changes in the caecum mucous occurred and Ogilvie syndrome diagnosis is established in time, we will begin with administrating 2.5 mg Neostigmine (reversible acetylcholinesterase inhibitor, which indirectly stimulates muscarinic receptors, stimulating large bowel evacuation) slowly intravenously for 2-3 minutes, accompanied by prokinetics, electrolyte rebalancing, interruption of oral feeding.

If the medical treatment fails to produce the desired effect, with a relapse rate of up to 40 % we will attempt large bowel evacuation colonoscopy without further preparation. Surgery addresses to cases where other therapies have been ineffective, especially to Ogilvie syndrome complications: 12 cm caecum dilation with risk of necrosis, irreversible ischemic changes in the colonic mucosa, colonic perforation, peritonitis.

Frequently, surgery is practiced in the emergency if the diagnosis of acute colic pseudo-obstruction syndrome was not timely established, because of the symptoms mimicking intestinal obstruction.

Colonic pseudo-obstruction diagnosis is difficult to determine preoperative because of the obvious signs of intestinal obstruction. Clinical experience and association of comorbidities (severe surgical interventions, infections, sepsis, kidney failure, heart disease, family history present, laparotomy in personal history of alleged occlusive syndromes, who did not reveal a cause, chronic pain and persistence of symptoms between exacerbations, malnutrition, the association of extra intestinal manifestations) can help us in suspecting Ogilvie syndrome which will decrease the number of unnecessary emergency laparotomies.

Figure no.4 The management of pseudo obstructive intestinal syndrome patient

CONCLUSIONS

- The intestinal pseudo-obstruction in adults is a pathological entity increasingly debated by the specialized literature of the recent years and increasingly occurring in the emergency pathology. Despite this, there have been relatively little progress made in clinical quantification of the disease, and there are still many differences in the diagnostic characterization made by various authors.
- Clinical classification difficulties are reflected in the treatment often with disastrous results, so far, not being set a clear course of treatment, both medical and surgical treatments bringing any relief to suffering and prevention of the biological degradation of these patients.

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