

# Is conservative treatment efficient in isolated retroperitoneum of sigmoidal origin?

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## Abstract

Although sigmoidal diverticulitis is a prevalent medical-surgical condition, the clinician may be misled in his or her diagnosis due to the plethora of findings. We describe through this clinical case an isolated retroperitoneum secondary to a sigmoiditis by detailing the reasoning behind our approach.

## Title:

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## Consent statement:

Written informed consent was obtained from the patient to publish this report in accordance with the journal's patient consent policy.

## Introduction:

Sigmoidal diverticulitis is a regular reason for emergency referral. Although the treatment is well established, we describe an unusual complication that raises concerns about its etiopathogeny and treatment: an isolated pneumoretroperitoneum complicating a sigmoidal diverticulitis.

## Case report:

A 50-year-old man, with no significant medical history apart from obstipation, arrived to the emergency department complaining of diffuse abdominal pain. Upon examination: Vital parameters were within normal limits and no signs of respiratory distress were observed, no palpable crepitus at the level of the chest and abdomen were noted. He exhibited diffuse tenderness with a maximum in left iliac fossa, without guarding. Abnormal laboratory findings included high inflammatory markers: WBC=16730/mm<sup>3</sup>, CRP=82.4 mg/L. The patient underwent a CT scan which described: Pancolic diverticulosis, regular circumferential parietal thickening of the sigmoid colon measuring 1mm in thickness and extending over 85mm, significant densification of the surrounding fat with no detectable collection (figure 1), air pockets of pneumoperitoneum opposite the antemesenteric border of the sigmoid colon, abundant retroperitoneum fusing upwards to the posterior inframediastinal space figure 2). Upon these findings, we decided a conservative treatment. He was

kept under strict supervision, by monitoring and serial laboratory tests. He was put under usual analgesics as well as an antibiotic therapy to prophylactic aim associating cefotaxime+metronidazole+gentamicine. A suspension of the oral food intake was instituted. Symptoms improved gradually. And inflammatory markers dropped with WBC=1030/mm<sup>3</sup> and CRP=21 mg/L. Feeding was resumed as soon as the symptoms were relieved; a low-residue diet was started. A CT scan was requested to exclude a pericolic or distant suppured collection and to control the volume of retroperitoneum. Due to favorable evolution, he was discharged 7 days after the initial observation.

## Discussion:

Although sigmoidal diverticulitis is a prevalent medical-surgical condition, the clinician may be misled in his or her diagnosis due to the plethora of findings. Indeed, depending on the location along the colonic tract and the pattern of acutisation, the presentation varies from a consolable complaint to a visceral failure. We describe through this clinical case a retroperitoneum secondary to a sigmoiditis by detailing the reasoning behind our approach. The causes of retroperitoneum to be listed are rupture of the duodenum, perforation of the rectum, post-colonoscopy or ERCP procedure, colon perforation, extension from pneumomediastinum or gas-containing retroperitoneal abscess [1].

Due to a suitable anatomy combining a parietal weakness at the mesenteric border and a loose cellulolympic atmosphere, the diverticulum can perforate and fuse into the retroperitoneum. It will then reach the mediastinal layer by diffusing through the perineural and perivascular sheaths and will escape in the posterior medial space through the esophageal and aortic hiatus. This inter-compartmental crossing is facilitated by a negative intra-thoracic pressure opposed to a positive intra-abdominal pressure [2].

This perforative event could be accompanied by pyo-stercoral spillage complicating this complication by inflicting purulent fuses along the loose connective tissue of the retroperitoneum. Due to the solid nature of the stool of the descending colon and the constipation tendency in carriers of colonic diverticulosis, the retroperitoneal perforation could be resumed in a gas leak. Fortunately for our patient, we faced the most clement case. Thus, he was not deemed to require surgery at the time. The amount of air does not correlate with the severity of the symptoms [3], the therapeutic attitude is conditioned by the clinical tolerance and the response to conservative treatment. Surgical treatment should be reserved for extensive pneumoretroperitoneum that does not respond to symptomatic treatment. During this therapeutic window, energetic monitoring is imperative to watch for cardiac or respiratory complications related to pericardial topanade or pneumothorax or suffocating cervical emphysema.

## Conclusion:

Isolated pneumoretroperitoneum secondary to sigmoid diverticulitis is an unusual presentation; its treatment is determined by the cardiorespiratory tolerance of possible associated complications and the response to medical treatment. This clinical case illustrates the efficiency of conservative treatment in spite of the volume and extension of the pneumoretroperitoneum.

## Figures:

Axial slice of abdominal CT scan reveals: Diverticulosis (star), Regular circumferential parietal thickening of the sigmoid colon measuring 1mm in thickness (arrow head), Significant densification of the surrounding fat (arrow)

Axial slice of an abdominal CT scan reveals entrapment of air bubbles within retroperitoneal spaces (arrow heads)

## References:

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