



Original Research

Right-sided acute diverticulitis: A single Western center experience



Francesco Monari, Maurizio Cervellera, Basilio Pirrera*, Umberto D'Errico, Samuele Vaccari, Laura Alberici, Valeria Tonini

Unit of Emergency Surgery, Emergency Department, Policlinico S.Orsola-Malpighi, University of Bologna, Italy

HIGHLIGHTS

- Right-sided diverticula are usually asymptomatic but complications may occur and in most cases it cannot be distinguished from acute appendicitis.
- A surgical exploration is performed in most cases and in selected cases diverticulectomy can be a valid option.

ARTICLE INFO

Article history:

Received 4 April 2017

Received in revised form

1 June 2017

Accepted 2 June 2017

Available online 13 June 2017

Keywords:

Right sided diverticular disease

Surgical treatment

ABSTRACT

Introduction: Right sided diverticular disease is a rare condition in Western countries whereas is common amongst Asian population. The aim of this study is to evaluate options and outcomes for the treatment of right colonic diverticulitis.

Method: We included only patients undergoing surgery with right colon diverticulitis (RCD) proven at histological specimen examination from September 2011 to December 2016.

Results: We performed 18 operations for RCD. Age was lower compared to left sided disease (49 ± 16 vs 67 ± 14 ; $P < 0.001$). Three patients were Asian (16.7%). RCD was diagnosed preoperatively in 8 cases (44.4%), whereas appendicitis was suspected in 9 cases (50%) and neoplasm in one (5.6%). We performed resection with anastomosis in 13 patients (72.2%) and in 5 cases we performed a diverticulectomy. Laparoscopy was performed in 14 cases (77.8%). Postoperative morbidity occurred in 3 patients (16.7%; grade 2 or 3a according to Clavien-Dindo) with no mortality. No postoperative events occurred after diverticulectomy with shorter hospital stay (4 ± 1.5 vs 11 ± 13 ; $P = 0.022$), as no recurrence or need for elective surgery after a mean follow-up of 20 months.

Conclusion: RCD is a rare but not irrelevant condition. Minimally invasive surgery is often feasible and complication rate is low. In selected patients, diverticulectomy can be a valid alternative to treat this condition providing improved postoperative results.

© 2017 IJS Publishing Group Ltd. Published by Elsevier Ltd. All rights reserved.

1. Introduction

Colonic diverticular disease is very common in Western countries and is mainly related to dietary factors. However the disease is localized predominantly in the left colon, where the intraluminal pressure tends to increase and the diameter of the lumen is smaller ($\tau = P/r^2$) [1]. Right sided diverticular disease is rather a rare condition in Western countries whereas is common among Asian population. Right colon diverticula are often single and in these cases they are “true” congenital diverticula with the protrusion of the whole colonic wall. In fewer cases right sided diverticula are

multiple and “false” and this condition has been related to abnormal colonic motility and increase of endoluminal pressure [2]. Every part of the right colon can be interested by diverticula, from the appendix to the ascending colon, even if caecum is the most frequent site [1]. Right sided diverticula are usually asymptomatic but complications, such as inflammation, perforation or hemorrhage may occur and in most cases it cannot be distinguished from acute appendicitis since symptoms and laboratory findings can be similar. Also CT scan could fail to detect a right sided acute diverticulitis and, in some cases, a suspicious mass is detected. Given these reasons a surgical exploration, usually laparoscopic, is performed in most cases [1–3]. This paper aims to present the experience in the management of patients affected by right colon diverticulitis in a single Western surgical center.

* Corresponding author.

E-mail address: eliopirrera@virgilio.it (B. Pirrera).

2. Methods

Patients admitted to the emergency surgery unit for colonic diverticulitis were registered in a database from September 2011 to December 2016 and were operated on by the same surgical team. In this retrospective study we included only patients undergoing emergency surgery with right colon diverticulitis proven at histological specimen examination. The surgical procedure was chosen intraoperatively considering the patient's presentation. A stapled diverticulectomy was performed following colon mobilization in those cases where there was not diffuse peritonitis, free fluid or patient's that were ASA 1–2. In all the other cases a resection followed by anastomosis was performed. Preoperative exams were all performed at the Accident & Emergency admission: every patient undergone abdominal X-Ray and routine blood exams. No revision of the radiological findings was carried out following histological specimen examination. We excluded patients with both right and left colon disease and patients with malignancies associated to diverticular disease. We analyzed pre-, intra- and post-operative data collected in a dedicated database. Data concerning patients with left colonic diverticular disease hereby reported are related to the same surgical team records. The data were entered into a Microsoft Access database (Microsoft Corp., Redmond, WA). Data processing was done with the SPSS 10.0 (SPSS Inc., Chicago, IL) statistical program. Two-dimensional frequency distributions (cross tables) were compared with the Pearson chi-squared test, with p values < 0.05 considered significant. Continuous variables were evaluated using "Student-t" test.

3. Results

During the observed time 185 patients underwent surgical intervention for diverticular disease in our unit. In 18 cases (9.7%) we performed an emergency surgical exploration for a disease localized in the right side of the colon. All preoperative and perioperative characteristics of patients in the study cohort are listed in [Tables 1 and 2](#). Median time to surgery was 9.5 h (range 5–18 h). All patients admitted in our unit underwent surgical exploration without any other intervention or medical treatment prior to surgery. The mean age of these patients was significantly lower respect to patients with left sided diverticulitis (50 ± 16 vs 67 ± 14 years; $p < 0.001$) and 5 patients (27.8%) were less than 40 years old; 3 patients were Asian (16.7%). All patients reported pain in right iliac fossa and 12 of these (67.7%) had signs of peritoneal irritation. Laboratory blood tests showed leukocytosis in 15 patients (83.3%) and elevation of C-reactive protein in 88.9% of cases (16 patients). CT scan was performed in 9 cases, while 5 patients had ultrasonography. Only one patient underwent preoperative endoscopy due to rectal bleeding. Preoperative diagnosis was acute RCD in 9 cases (50.0%), acute appendicitis in 8 cases (47.1%) and colonic neoplasm in one case (5.6%). In every surgical procedure was found the presence of inflammation or perforation of a solitary diverticulum. The disease was localized in caecum in 11 cases (61.1%) and in ascending colon in 7 cases (38.9%). A colonic resection (right colectomy or ileocaecal resection) with primary anastomosis was performed in 13 patients (72.2%); in 5 cases the procedure consisted in a diverticulectomy. Laparoscopic approach was performed in 14 cases (77.8%) with a conversion rate of 35.7%. Postoperative events occurred in 3 patients (16.7%) according Clavien-Dindo classification [4]. One patient required intravenous antibiotic therapy for postoperative pneumonia. One patient had a partial dehiscence of the abdominal fascia that required surgical revision in local anesthesia and one patient required a CT guided percutaneous drainage for abdominal fluid collection. No patient required re-intervention and 1 patient was readmitted due to transient

Table 1
Preoperative characteristics of the study population.

	n.	%
Sex		
M	10	55.5
F	8	44.5
Age		
≥ 40	13	72.2
<40	5	27.8
ASA		
1-2	13	72.2
3-4	5	27.8
Race		
Asian	3	16.7
Caucasian	15	83.3
Right Iliac Fossa Pain		
Yes	18	100
No	0	0
Blumberg's sign		
Positive	12	66.7
Negative	6	33.3
Vomiting		
Yes	2	11.1
No	16	88.9
Diarrhoea		
Yes	2	11.1
No	16	88.9
WBC count		
Normal	3	16.7
Elevated	15	83.3
CRP		
Normal	2	11.1
Elevated	16	88.9
Preoperative imaging		
X-Ray	3	16.7
US	5	27.7
CT	9	50.0
Endoscopy	1	5.6
Preoperative diagnosis		
Appendicitis	8	44.4
Diverticulitis	9	50.0
Neoplasm	1	5.6

rectal bleeding that stopped spontaneously without needing any transfusion.

4. Discussion

RCD is a rare condition with an higher prevalence in Asian population and preoperative diagnosis can be challenging [5,6]. Nevertheless some studies demonstrated that a correct diagnosis can be obtained with preoperative imaging [7–9]. However preoperative work up should not be the same in every case. In our series only in 9 patients (50.0%) a CT scan was performed with a misdiagnosis rate of 33.3% (3 patients) and one case of preoperative suspicion of neoplasm of ascending colon. Other 8 patients underwent surgical exploration after plain abdominal X-Ray or ultrasonography alone and only in two cases the diagnosis of diverticulitis was done whereas in the other 6 cases an acute appendicitis was suspected. One patient had preoperative colonoscopy for massive rectal bleeding and the endoscopist was able to find out diverticular bleeding with signs of acute inflammation ([Table 3](#)). Preoperative distinction between RCD and other pathological conditions, in particular acute appendicitis, can be very challenging based on signs and symptoms [10]. Alvarado score ([Table 4](#)) has been used since almost 30 years to clinically detect acute appendicitis using clinical and laboratory findings in patients with acute abdomen [11]. We retrospectively calculated the score in patients considered in this study. Alvarado score was 0–3 in 2 patients (11.1%), 4–7 in 12 patients (66.7%) and ≥ 8 in 4 cases

Download English Version:

<https://daneshyari.com/en/article/5731669>

Download Persian Version:

<https://daneshyari.com/article/5731669>

[Daneshyari.com](https://daneshyari.com)