

Appendicular Abscess in the Service of General Surgery at the Teaching Hospital Gabriel Toure, Bamako, Mali

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Abstract

Objectives: To determine hospital frequency and to write the diagnostic and therapeutic aspects of appendicular abscess in adults in the General Surgery Department of teaching Hospital Gabriel Touré from 2005 to 2017. **Material and Methods:** This was a retrospective study conducted from January 1, 2005 to December 31, 2017 in the General Surgery Department of Gabriel Touré University Hospital in all patients with appendicular abscess. **Results:** In 13 years, 1420 cases of acute appendicitis have been reported, including 105 cases of appendicular abscess (7.4%). Mean age of the patients was 32 years with extremes of 16 years and 70 years. Abdominal pain and fever were present in all patients. Pain sat in the right iliac fossa in 73.3% and was epigastric in 11.4%. In almost all cases abdominal defense was present (97.1%). There was generalized abdominal contracture in 2.8% of cases. Average duration of evolution was 27 days with extremes of 1 day and 60 days. Ultrasonography was performed in 42.6% of cases and found peri-appendicular effusion in 29 cases (27.6%). 90 incisions were made by incision of Mac Burney, 8 by median umbilical, 7 by midline above and below umbilical. The amount of fluid aspirated was greater than 100 cc in 47 patients. We performed an appendectomy with appendicular stump burying followed by washing plus drainage of the abdominal cavity in 65 patients. Morbidity rate was 14.3%. No deaths were recorded. Average duration of hospitalization was 6.5 days with extremes of 2 days and 26 days.

Keywords

Appendicular Abscess, Adult, Appendectomy, Mali

1. Introduction

Appendicular abscess represents one of the evolutionary modes which follow the perforation of the appendix in which diffusion of infection is “contained” by the large epiploon and the slender loops resulting in the constitution of a real located abscess of the large peritoneal cavity [1]. It is the initial clinical picture found in approximately 50% of cases in adults [1] and constitutes a medico-surgical emergency. Appendicular abscess accounts for 10% of adult acute appendicitis in Africa [2]. Diagnosis is clinical, in case of doubt ultrasound allows to make it. Treatment of abscess is emergency drainage by radiological or surgical route combined with antibiotic therapy [3]. The benefits of endoscopic surgery remain controversial so far compared to the open way but currently laparoscopic surgery has become the gold standard in digestive surgery. In the absence of early surgical drainage, the abscess progresses spontaneously to appendicular peritonitis [4].

Given the high frequency and lack of more specific study on appendicular abscesses in adults in the department, this work has been initiated.

2. Materiel and Methods

This was a prospective, 13-year study from January 1, 2005 to December 31, 2017 covering all patients operated for appendicular abscess over 15 years of age in the General Surgery Department of the teaching hospital GABRIEL Toure.

All patients operated for appendicular abscess confirmed perioperatively and at pathological examination were included. Data were collected from medical and operational records. Data entry and analysis were done on Word 2007 Epi-info SPSS software. The statistical tests used were Chi² with a statistically significant difference for the $p < 0.05$ values.

3. Results

We collected 105 cases of appendicular abscess in 13 years. During the same period 7820 patients were operated in emergency among which 1420 cases of appendicitis (7.4%). These accounted for 0.4% of hospitalizations.

Patients' average age was 32 years old with extremes of 16 and 70 years old.

Sex ratio was 2.75. 90 patients (85.7%) have been received in emergency consultation. Abdominal pain and fever were present in all patients.

Pain was located in the right iliac fossa in 77 patients (73.33%) and was epigastric in 12 patients (11.42%). Abdominal defense was present in 102 patients (97.14%). There was generalized abdominal contracture in 3 cases (2.85%) on resume **Table 1**.

Table 1. Pain location at the beginning.

Location	n	%
Right iliac fossa	77	73.3
epigastrium	12	11.4
Peri-ombilical	7	6.6
Hypogastric	3	2.8
Pelvic	3	2.8
Diffuse	3	2.8
Total	105	100

The average duration of evolution was 27 days with extremes of 1 day and 60 days. Ultrasound was performed in 46 patients (42.6%) and found peri-appendicular effusion in 29 cases.

90 incisions were made by incision of Mac Burney, 8 by median umbilical, 7 by midline above and below umbilical. The amount of fluid aspirated was greater than 100 cc in 47 patients (44.8%). The resume on **Table 2**.

Therapeutic gestures made are summarized in **Table 3**.

We performed an appendectomy with appendicular stump burying followed by washing plus drainage of the abdominal cavity in 65 patients (58.1%), an simple appendectomy in 24 cases (22.9%), appendectomy with burying without drainage in 6 patients (5.7%) and simple drainage was performed in 10 cases (9.5%).

We noted a morbidity rate in 15 cases (14.3%). No deaths were recorded. Our average hospital stay was 6.54 days with extremes of 2 and 26 days.

4. Discussion

Appendicular abscess is a significant complication of acute appendicitis. It accounts for 10% of acute appendicitis in adults in Africa. On the other hand, it constitutes the initial clinical picture in 50% in the young person. It accounted for 7.4% of appendicitis in our series. The statistically significant difference between frequency in Nigeria and ours could be influenced by early management of appendicitis [3].

Appendicitis is especially pathology of the young adult like appendicular abscess, but it is rare in old man [4].

According to the literature, age is not a risk factor. Average age of 32 years in our study does not differ from that of the studies [3] [4].

Male was the most represented in our study as in all authors [3] [4] with sex ratios ranging from 1.28 to 2.75. Sex does not represent a risk factor in the literature [5].

The consultation time is a determining factor in the prognosis of appendicitis [6]. Appendicitis can also progress at low levels due to diagnostic difficulties with the formation of an appendicular abscess [7] [8]. Fever is constant and is above 38.5°C [9]. We found it in all patients in our series.

Table 2. The amount of sucked pus.

Amount of pus	n	%
<20 cc	22	20.9
30 - 50 cc	24	22.8
60 - 90 cc	12	11.4
>100 cc	47	44.8
Total	105	100

Table 3. The postoperative course according to the actions performed.

Gestures made	Outcomes			Total
	<i>Simple</i> s	<i>Parietal suppuration</i>	<i>Suppuration + postoperative Occlusion</i>	
Appendectomy + burying + drainage	56	8	1	65
Appendectomy + burying without drainage	5	1	0	6
Appendectomy + drainage	20	4	0	24
Drainage	9	1	0	10
Total	90	14	1	100

In the literature appendicular abscess is characterized by the existence of violent pain [10] [11]. It was noted in 95.23% of the cases.

Digestive disorders (nausea, vomiting, diarrhea or constipation) are present in all series. Right lateral pain at rectal examination is found.

Ultrasound with a sensitivity of 80% for diagnosis can provide additional information on the pathological stage as well as the topography and is useful in case of difficult or doubtful diagnosis [12]. In our study, 46 patients (43.80%) underwent ultrasonography. Diagnosis of appendicular abscess was made in twenty-nine patients (63.04%). This result is different from those of the Italian and Korean series [13] [14]. Any abscess diagnosed must be operated as soon as possible, in order to eliminate the infectious focus to prevent the spread of infection in the peritoneal cavity [15] [16]. Laparoscopic approach should be favored today according to the literature. There is no difference in terms of morbid and mortality between the two pathways of burying the appendicular stump or not. However, a difference was found between syndrome of the fifth day in the series where there is no burying [6] [8] [10] [12] [16].

5. Conclusion

Appendicular abscess is a common surgical emergency. It follows acute appendicitis whose diagnosis is delayed by non-specific treatments in our country appendectomy plus drainage was the technique used.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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