

Epidemiological Aspects of Acute Surgical Abdomens at the Dioila Reference Health Center

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DOI: <https://doi.org/10.36347/sjmcr.2025.v13i02.004>

| Received: 26.12.2024 | Accepted: 01.02.2025 | Published: 04.02.2025

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Abstract

Original Research Article

Aim: To evaluate the epidemiological aspects of acute surgical abdomens at the CSREF of Dioila. **Patients and Methods:** This was a retrospective and descriptive study from July 1, 2019 to June 30, 2021. It covered all patients operated for acute surgical abdomen in the general surgery department of the Dioila reference health center. The Clavien and Dindo classification was used to assess complications. **Results:** One hundred and seventeen patients were recorded. The mean age was 30.6 years±16.9. Men were in the majority with 64.1% and a sex ratio of 1.7. The incidence rate in the general population of the district was 30.3 cases per 100000 inhabitants. Patients came from within the district (rural) in 76.1% of cases (n=89). The mean duration of symptomatology was 2.3 days±1.4. Acute surgical abdomens accounted for 8.7% of consultations (117/1345), 19.1% of surgical procedures (117/614) and 17.8% of hospitalizations (117/658). According to etiologies, acute appendicitis was the most common (60.7% ; n=71) followed by acute peritonitis (19.7% ; n=23) and strangulated parietal hernias (11.9% ; n=14). Appendicitis, especially the abscessed form, was the most morbid pathology (50% of overall morbidity) and the most fatal intestinal obstruction (100% of overall mortality, 2 cases). The mean length of hospital stay was 4 days±2.4. **Conclusion:** Acute surgical abdomens are common in the Dioila health district. Morbidity and mortality remains high. Prognosis depends on early management, age, and etiology. **Keywords:** Epidemiology- Acute Abdomen-Surgery-Dioila.

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INTRODUCTION

According to the World Health Organization (WHO), acute surgical abdomens are abdominal pain that has been developing for a few hours or a few days (less than three) and is related to a surgical pathology requiring emergency treatment [1]. They occupy an important place in visceral surgery activities. Their frequency varies between 42.7% and 72.7% depending on the literature [2-5]. They affect young men much more [5, 6]. In Europe, appendicitis is at the top of the etiologies [2] and in Africa it is acute intestinal obstructions followed by appendicitis and peritonitis [6]. Morbidity and mortality is high and is favoured by the delay in consultation and care [7, 8]. The prognosis depends on early diagnosis and management. Several studies have been carried out on surgical acute abdomens in our country. This study was initiated to study only the epidemiological aspects of surgical acute abdomens in the Dioila health district.

METHOD

This was a retrospective, descriptive study from July 1, 2019 to June 30, 2021. It focused on all patients operated for acute abdomen in the surgery department of the Dioila reference health center. We used patients' medical records, consultation register, operative report registers and hospitalisation registers. The parameters studied were frequency in the department, sex, age, incidence, geographical origin, duration of evolution, etiologies, morbidity, mortality and prognostic factors. The Clavien-Dindo classification was used to assess complications. The comparison test was the Chi2 test and the probability $p \leq 0.05$ was considered significant. Age, sex, etiology, therapeutic and prognostic aspects were studied.

RESULT

We collected the records of 117 patients with acute surgical abdomen, who accounted for 8.7% of consultations (n=1345), 19.1% of surgical procedures

(n=614) and 17.8% of hospitalizations (n=658). The incidence of surgical acute abdomen in the district was 30.3 cases per 100000 population. The mean age was 30.6 years±16.9 years with extremes of 5 years and 75 years. Men were in the majority with 64.1% (n=75), i.e. a sex ratio of 1.7. The age group of 20 - 40 years was more frequent with 39.3% of cases (46 cases). [Table 1]. Depending on the origin, patients came from the interior of the district (rural areas) in 76.1% of cases (n=89) and from the city of Dioila in 23.9% (n=28). The mean time to consultation was 2.3 days±1.4 with extremes of 12 hours and 30 days; It was greater than 3 days in 56.4% of our patients (n=66). Patients engaged in intense physical activities (farmers, breeders, workers, housewives) in 74.3% of cases (n=87), and intellectual activities (civil servants, shopkeepers, pupils and students) in 25.6% of cases (n=30). The medical history (peptic ulcer, high blood pressure) was noted in only 03

patients (2.5%). The etiologies of acute abdomens were acute appendicitis in 71 patients (60.7%) including 09 cases of abscess, acute peritonitis in 23 patients (19.7%), strangulated parietal hernia in 14 patients (11.9%), and acute intestinal obstruction in 5 patients (4.3%). [Table 2]. We noted 18 cases of gastrointestinal perforation and 2 cases of postoperative peritonitis. Postoperative morbidity was 6.8% of cases (n=8) and mortality was 1.7%. Postoperative complications classified according to Clavien-Dindo were grade II (7 cases of parietal suppuration), grade III (1 case of gastrointestinal fistulas) and grade V (2 cases of death) [Table 3]. Appendicitis, especially the abscessed form, was the most morbid pathology (50% of overall morbidity) and the most fatal intestinal obstruction (100% of overall mortality, 2 cases). The mean length of hospital stay was 4 days±2.4 with extremes of 2 and 12 days. It was longer in peritonitis (6.5 days.).

Table 1: Age and sex of patients

Age range	Masculine		Feminine		Total	Percentage
	N	%	N	%		
0-20 years	27	36%	10	23,8	37	31,6
20-40 years	26	34,7	20	47,6	46	39,3
40 years and older	22	29,3	12	28,6	34	29,1
Total	75	100	42	100	117	100

Table 2: Pathologies by sex

PATHOLOGY	SEX		Total	Statistical test
	Masculine	Feminine		
Appendicitis	43	28	71	P=0,220
Acute peritonitis	17	06	23	
Acute bowel obstruction	07	03	10	
Strangled hernia	06	03	09	
Traumatic hemoperitoneum	02	01	03	
Traumatic evisceration	0	01	01	
Total	75	42	117	

Table 3: Morbidity and mortality according to the main diagnoses

DIAGNOSTIC	SIMPLE SEQUENCES N (%)	COMPLICATIONS N (%)	Statistical test
Acute appendicitis N= 71	67 (94,4)	4(5,6)	X ² =3,816 P=0,050
Intestinal obstruction aigue N= 10	07(70)	3(30)	
Acute peritonitis N= 23	20(87)	3(13,0)	

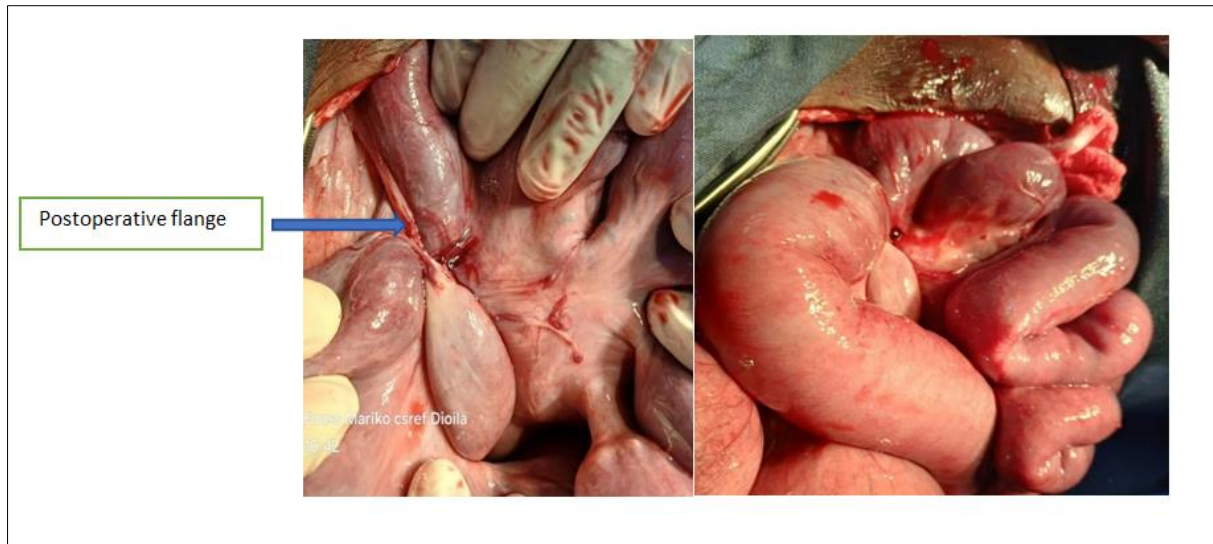


Photo 1: postoperative occlusive parieto-hail flange (left) with upstream hail dilatation (right).

Source : photo archives of the Dioïla surgery department

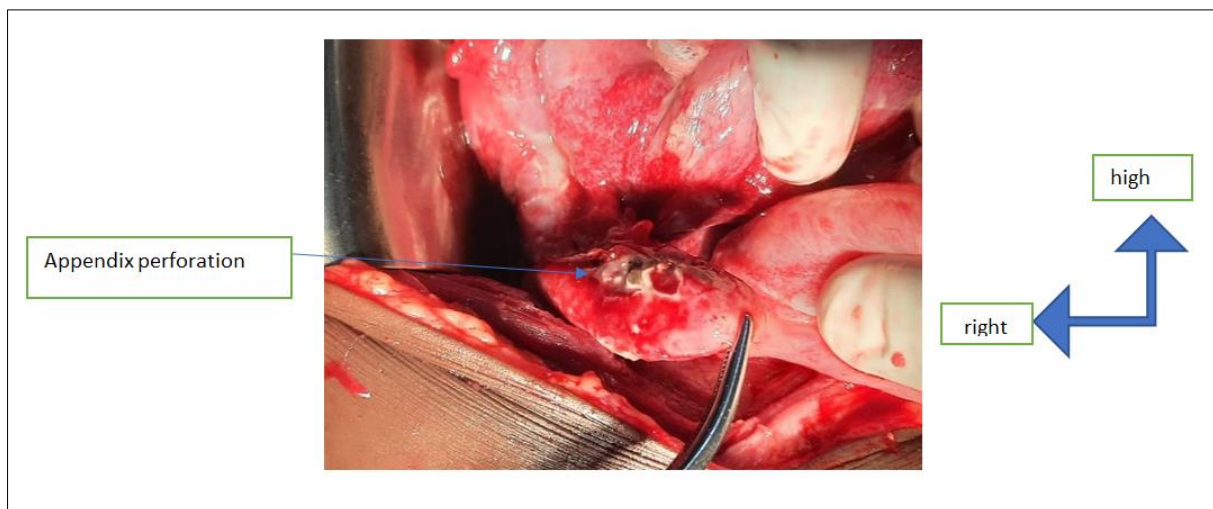


Photo 2: Appendicular perforation responsible for peritonitis

Source : photo archives of the Dioïla surgery department

DISCUSSION

We did a retrospective and descriptive study of 117 patients operated on for acute surgical abdomen, representing 19.1% of surgical procedures. This rate is statistically lower than that of Coulibaly M. in Koutiala with 27.7% ($p=0.016$) [10], the difference with the Koutiala series can be explained by the presence of other structures for the management of abdominal emergencies in the district and even in the region whose data were not part of our study. It is similar to that of Kambire J.L. in Burkina Faso with 16.6% ($p=0.27$) [11]. However, this hospital frequency does not reflect the real incidence of acute surgical abdomens in the district because of under-medicalization (5.9 health professionals per 10000 inhabitants (CSREF 2024 data) for a standard of 23 health professionals per 10000 inhabitants according to the WHO [9]); but also because of the presence in the circle of other health structures that take care of surgical acute abdomens whose data are not included in the this

study. Men were in the majority with a sex ratio of 2.6 and an average age of 30.6 years. This result on the predominance of young males confirms the data in the literature according to which digestive surgical emergencies mainly concern young adult males [12, 13], and on the other hand is justified by the main activity in the circle, which is agriculture requiring physical effort and the involvement of a younger population. These elements are most often responsible for certain causes of intestinal obstruction such as hernia strangulation and intestinal volvulus. Most of our patients consulted after the first 24 hours of symptomatology with an average delay of 2.3 days; It was greater than 3 days in 56.4% of our patients ($n=66$). Gaye [7], provides an average time of 4.6 days. This delay in consultation is linked to cultural beliefs and lack of financial resources on the one hand and lack of diagnosis in our peripheral health centers on the other hand where the acute surgical abdomen is sometimes confused with malaria syndrome

or salmonellosis. In our context, it can also be explained by the geographical location, as 76.1% of our patients (n=89) came from within the district and some travelled more than 100 km to reach the reference health centre. According to the etiologies, peritonitis was the most frequent with 60.7%. On the other hand, Wade [14], provided a high rate of intestinal obstruction in a Senegalese series with 41% of cases (p<0.01). The reason is that his study focused only on elderly subjects, with an average age of 73 years, who are at risk for colon volvulus and colonic tumor. The delay in consultation is said to be the basis for the high number of complicated cases and postoperative morbidity (6.8%). These postoperative complications were serious because 30% of the cases were of grade III or higher according to the Clavien-Dindo classification. This morbidity in turn explains the long hospital stay with an average of 4 days \pm 2.4 and up to 12 days in morbid cases. Coulibaly M reports the same observation with an average stay of 6.2 [10]. We found that etiology is a factor influencing mortality because the 2 patients who died were all cases of acute intestinal obstruction.

CONCLUSION

Acute surgical abdomens are common in our district; they affect more young male adults. Etiologies are dominated by acute appendicitis. Bowel obstruction was the deadliest condition. Morbidity and mortality remains high and depends on the time of consultation and the etiology.

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