

## Original Research Article

## Abdominal Surgical Emergencies at the Fana Reference Health Centre

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**Abstract: Introduction:** Surgical abdominal emergencies are abdominal pain evolving for a few hours or a few days (less than 3 days) which can be traumatic or non-traumatic which are related to a surgical pathology. **Purpose:** Studying surgical abdominal emergencies at the Fana reference health center (Csref). **Methodology:** This was a prospective study carried out at the csref of Fana from January 1, 2022 to December 31, 2022. **Results:** During the study we identified 121 cases of surgical abdominal emergencies including 76 men and 45 women with a sex ratio of 1.68, the average age was 29.95 years  $\pm$  18.71. These were 6 surgical emergencies which are: Acute appendicitis (45 cases), Intestinal obstruction (32 cases), Acute peritonitis (30 cases), Traumatic hemoperitoneum (06 cases), GEU (05), Evisceration (3). Abdominal pain was the main reason for consultation. The physical examination made it possible in the majority of cases to make the diagnosis. Faced with certain doubtful cases, we requested paraclinical examinations (ultrasound in 26 cases, ASP in 56 cases and grouping/rhesus in all cases). The morbidity rate was 12.4% and mortality 6.66%. **Conclusion:** The frequency of surgical abdominal emergencies is high at the Csref of Fana with 20.20%. The clinical picture is polymorphous. The causes are many and varied; dominated by acute appendicitis, intestinal obstruction and peritonitis.

**Keywords:** Abdominal, Surgical Emergencies, Fana.

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## INTRODUCTION

An emergency is a pathological situation in which a diagnosis and treatment must be made very quickly [1].

Surgical abdominal emergencies are abdominal pain that has been present for a few hours or days (less than 3 days) and may be traumatic or non-traumatic and related to surgical pathology [2].

The frequency varies from country to country:

**In France:** Bocard E *et al.*, in a retrospective study carried out in 2010 on 630 surgical emergencies operated; 244 were abdominal, i.e. 38.76% with a mortality rate of 4% and a morbidity rate of 13% [3].

**In the DRC,** Vally NDUMBI TEMUANGUDI: The frequency and management of acute abdominal surgery in the surgical department of the Provincial Hospital of Kananga from January 1, 2010 to December

31, 2012, represents 10% of emergency consultations at home and 5 to 10% of admissions to hospital emergency departments and resulting in hospitalization in 18 to 42% of cases in adults [2].

**In Mali:** In the general surgery department at Gao hospital in 2008-2009, 521 surgical interventions were performed, including 70 cases of emergency abdominal pathologies, i.e. 13.4% of interventions according to Mr Maiga A. A [4].

At the Csref of Koulikoro, according to Mr Doumbia A. A [5] the frequency of surgical abdominal emergencies over a period of 12 months was 101 patients out of 1456 consultations and 517 hospitalisations, i.e. respectively 6.9% and 19.5%.

There is little epidemiological data concerning the referral health centres, so we thought it would be interesting to carry out a study on the epidemiological, clinical and therapeutic aspects of surgical abdominal emergencies at the Fana referral health centre.

## OBJECTIVES

### General Objective:

- To study surgical abdominal emergencies at the Fana reference health centre.

### Specific Objectives:

- To determine the hospital frequency of surgical abdominal emergencies.
- Determine the main pathologies encountered in surgical abdominal emergencies and the main complementary examinations performed.

## MATERIALS AND METHODS

### Study Location

This study was conducted in the general surgery department of the Fana referral health centre.

### Type and Period of Study

We conducted a prospective study at the Fana referral health centre. It covered a period of twelve months from 1<sup>er</sup> July 2021 to 30 June 2022.

### Inclusion Criteria

- Any patient operated on in the general surgery unit of the Fana referral health centre for surgical abdominal emergencies other than caesarean sections.

### Inclusion Criteria:

- Any abdominal pain not requiring urgent surgical intervention.

## Caesarean Sections

### Sampling

Given the above criteria, we recruited all patients who had undergone emergency abdominal surgery at the general surgery unit.

### Patients and Methods

We collected the data ourselves. An interview at the patient's bed allowed us to fill in the questionnaire which included;

- Personal and administrative data.
- Clinical, biological, radiological and therapeutic data.

### Study Variables

They concerned the frequency, sex, age, main pathologies encountered and paraclinical examinations.

### Analysis and Data Entry

The word processing and tables were produced in Microsoft Word.

The data were entered and analysed on the Epi Info software<sup>TM</sup> (7 and 6.0).

The results were discussed with the statistical test of chi<sup>2</sup>, the reduced deviation test and the Fisher's exact test. The significance level  $p \leq 0.05$ .

**Ethical Consideration:** Free and informed consent of patients has been obtained.

## RESULTS

### - Frequency:

In our study, over a period of 12 months, we recorded 121 cases of surgical abdominal emergencies out of 7926 consultations and 599 operated emergencies, i.e. respectively 1.53% and 20.20%.

**Table I: Distribution of patients according to the pathologies encountered**

Pathologies	Frequency	Percentage (%)
Acute appendicitis	45	37,19
Intestinal obstruction	32	26,45
Peritonitis	30	24,79
Hemoperitoneum	6	4,96
EP	5	4,13
Evisceration	3	2,48
<b>Total</b>	<b>121</b>	<b>100,00</b>

Acute appendicitis was in the majority with 37.19%.

### - Age

**Table II: Distribution of patients by age group**

Preoperative diagnosis	AGE RANGE						Total
	0-15	16-30	31-45	46-60	61-75	76 and over	
Acute appendicitis	6	24	9	5	0	1	45
%	13,33	53,33	20,00	11,11	0,00	2,22	100,00
Evisceration	3	0	0	0	0	0	3
%	100,00	0,00	0,00	0,00	0,00	0,00	100,00
Ruptured EP	0	4	1	0	0	0	5
%	0,00	80,00	20,00	0,00	0,00	0,00	100,00

Hemoperitoneum %	2 33,33	1 16,67	1 16,67	1 16,67	1 16,66	0 00,00	6 100,00
Occlusion %	8 25,00	9 28,12	5 15,62	3 9,38	6 18,75	1 3,13	30 100,00
Acute peritonitis %	7 23,33	13 43,33	5 16,67	3 10,00	2 6,67	0 00,00	30 100,00
<b>TOTAL</b>	<b>26</b> <b>100,00</b>	<b>51</b> <b>100,00</b>	<b>21</b> <b>100,00</b>	<b>12</b> <b>100,00</b>	<b>9</b> <b>100,00</b>	<b>2</b> <b>100,00</b>	<b>121</b> <b>100,00</b>

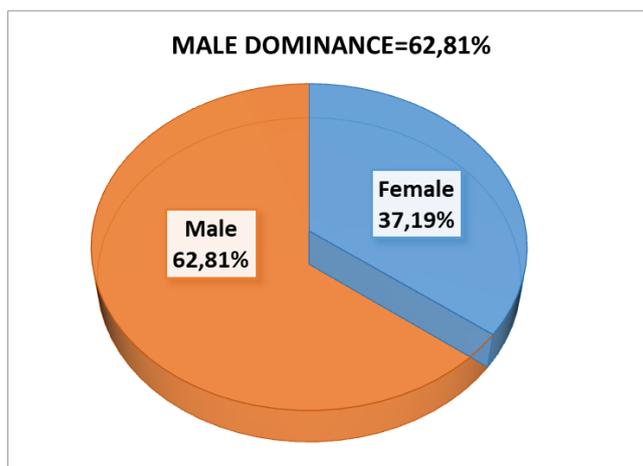
In this study the 16-30 age group was in the majority with 42.15%.

Mean: 29.95 years± 18.7134

Minimum: 2 years

Maximum: 90 years

**- Sex:**



**Figure 1: Distribution of patients by gender**

**- Additional Examinations**

**Table III: Distribution of patients according to complementary examinations carried out**

Additional examinations	Frequency	Percentage (%)
ASP	56/121	46,29
Ultrasound	26/121	21,50
Group - Rhesus	121/121	100
Hemoglobin level	121/121	100

All patients were rhesus-grouped and haemoglobin levels were determined as 100%.

**DISCUSSION**

**- Frequency:**

Over a period of 12 months, we recorded 121 cases of surgical abdominal emergencies out of 7926 consultations and 599 operated emergencies, i.e. respectively 1.53% and 20.20%.

**Table IV: Frequency of the first four abdominal emergencies according to the authors**

Authors	Doumbia, A. A [5] Mali (2013)	Diabaté, S Bougouni [6] (2014)	Etienne [7] France(1994)	Our study Fana (2022)
1 <sup>ere</sup>	Appendicitis 56/111	Appendicitis 37/95	Appendicitis	Appendicitis 45/121
2nd	EP 20/111	Occlusion 20/95	Cholecystitis	Occlusion 32/121
3rd	Occlusion 8/111	Peritonitis 17/95	Intestinal obstruction	Peritonitis 30/121
4th	Peritonitis 5/111	EP 13/95	Perforated ulcer	Hemoperitoneum 6/121

The main pathologies found in our series were: acute appendicitis, intestinal obstruction, acute peritonitis and hemoperitoneum.

**- Age:**

The most represented age group was 16 to 30 years with 42.15% for an average age of 29.95 years $\pm$ 18.71. This average is comparable to that of Doumbia.A.A [8] who found an average of 30.1 years $\pm$ 13.7 with  $p=0.9$ .

In the literature, surgical abdominal emergencies concern young adults with an average age varying from 30 to 45 years. We agree with these authors. This juvenile frequency could be explained by the high physical activity of young people.

**- Gender**

In our study, males were in the majority with a sex ratio of 1.68. This result is comparable with that of Kebe.M [8] who found a sex ratio of 2.

In the literature, surgical abdominal emergencies concern young male adults.

**- Additional Examinations**

We performed PSA in 46.29% of our patients. This result is higher than that of Kebe M. who found 8.67% with  $p=10^{-6}$ . This difference could be explained not only by the fact that the PSA is a crucial element in the diagnosis of surgical abdominal emergencies, but also by the fact that it could serve as a forensic document.

Ultrasound has an important place in the diagnosis of surgical abdominal emergencies. During our study, it was performed in 21.50% of our patients, 20.66% of whom were conclusive. This result is lower than that of Doumbia A.A. [5] who found 37.62% with  $p=0.008$ . This low rate of ultrasound examination could be explained by the unavailability of the sonographer at all times. The practice of this examination in emergency, obliged a displacement of the patients out of the centre by its own means; from where the delay in the therapeutic management. Some of our patients were referred with an ultrasound result.

Haemoglobin and Rhesus grouping were performed in all our patients. This result is superior to that of Doumbia A.A [5] who found 78.2%. This difference could be explained by the availability of laboratory staff for on-call duty.

## CONCLUSION

The frequency of surgical abdominal emergencies is high at the Fana Csref with 20.20%.

The causes are many and varied, dominated by acute appendicitis, intestinal obstruction and peritonitis.

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