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Epidemio-Clinical and Therapeutic Aspects of Digestive Surgical Emergencies at Fousseyni Daou Hospital in Kayes

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Abstract **Original Research Article**

Introduction*:** According to the WHO, digestive surgical emergencies are abdominal pain lasting a few hours or days (les s than three) and which are related to a surgical pathology requiring emergency treatment. Digestive surgical emergencies are pathologies which occupy an important place in surgery due to their high frequency, their difficult management, and their high mortality and morbidity rate. ***Objective: Study the epidemio-clinical and therapeutic aspects of digestive surgical emergencies à the Fousseyni Daou in Kayes Hospital. ***Patients et Method*:** This was a prospective and descriptive study from March 2022 to March 2023 in the general surgery department of Fousseyni Daou Hospitol in Kayes. We included in this study all patients operated on for a digestive surgical emergency without distinction of sex or age. ***Results*:** The frequency of digestive surgical emergencies was 42.53%. The 10-20 year old age group was most represented with 37%. Abdominal pain was the most fréquent reason for admission with 87%. The site of pain was the right iliac fossa in 35% of cases. Acute appendix was the most common preoperative diagnosis with 37%. In our series, 54% of patients were operated on in les s than 24 hours. Therapeutically, 47% of patients benefited from an appendectomy. In our series, 30% of patients presented with a postoperative complications. We observed 3 cases of death. ***Conclusion*:** Digestive surgical emergencies occupy an important place in digestive pathology due to their high frequency at the Fousseyni Daou Hospitol in Kayes. The etiologies are multiple and varied, hence the need for close multidisciplinary collaboration for treatment.

Keywords: Aspects, Epidemio-clinical, Therapeutic, Emergencies, Surgical, Digestive, Hospital, Kayes.

INTRODUCTION

Surgical emergencies concern all patients admitted to the emergency department for whom a decision to undergo surgery may be required within 24 hours [1]. According to the WHO, digestive surgical emergencies are abdominal pain that has been evolving for a few hours or a few days (less than three) and is related to a surgical pathology, requiring emergency treatment. It is any traumatic or non-traumatic disorder of the abdominal sphere requiring urgent abdominal surgery [2]. Digestive surgical emergencies are pathologies that occupy an important place in surgery, due to their high frequency, difficult management and high mortality and morbidity rates [3]. In the USA, 19 etiologies, including 6 surgical ones (acute appendicitis, acute cholecystitis, acute intestinal obstruction, duodenal ulcer, ovarian cyst torsion, aneurysm) were found in 1000 patients with acute abdomen in 2004 by BROWER [4]. In FRANCE, a study was carried out on the relationship between severe abdominal pain and the diagnosis of surgical urgency in 2022 on 4493 patients included, of whom 2491 were women (55%). Surgical emergency was diagnosed in 677 patients (15%). Appendicitis and digestive obstruction were the most frequent [5]. In Pakistan in 2005, 71.4% of 759 surgical emergencies were abdominal [6]. In Africa, a study conducted at the ZINDER national hospital in NIGER in 2016 found 622 digestive surgical emergencies out of 2,720 patients, representing 22.87% [7]. In 2021, in a study carried out at the San Reference Center by FONGORO M., digestive surgical emergencies

accounted for 21.57% of all procedures [8]. In 2019, a study was conducted on digestive surgical emergencies at the Centre de Santé de Référence de la Commune II de BAMAKO established a rate of 44.80% of all surgical interventions [9]. During a study at the Centre Hospitalier Universitaire Régional de Ouahigouya (Burkina-Faso) in 2018, 394 patients were operated on for digestive surgical emergencies out of 2,360 admitted, representing 16.9% of admissions [10]. The aim of this work wast to study the clinical, epidemiological and therapeutic aspects of digestive surgical emergencies at the Fousseyni Daou Hospital in Kayes.

PATIENTS AND METHOD

This was a prospective, descriptive study, from March 2022 to March 2023 in the general surgery department of the Fousseyni Daou Hospital in Kayes. We included in this study all patients operated on for digestive surgical emergencies without distinction of sex or age in the general surgery department of the F. Daou hospital in Kayes. We did not include in this study all digestive surgical emergencies not operated on in the surgical department of the Fousseny Daou hospital in Kayes, or all digestive medical emergencies. Data were collected from the medical record, the register of consultations, hospitalizations and operative reports. Data were entered into Word 2010 and analyzed using SPSS.20 software. Ethically, informed consent and confidentiality were respected for each patient.

RESULTS

During our study period we collected 100 cases of digestive surgical emergencies out of a total of 1253 consultations; 235 procedures and 347 hospitalizations, i.e. respectively 7.98% of consultations, 42.53% of procedures, and 28.82% of hospitalizations.

Table I: Patient distribution by age group

Age	Workforce	percentage
< 10	5	5
10-20	37	37
20-30	14	14
30-40	20	20
40-50	11	11
50-60	6	6
70 et plus	1	1
Total	**100**	**100**

The 10-20 age group was the most represented with 37%. The average age was 28.67, with extremes of 4 and 70 years. Standard deviation= 15.936.

Male sex was the most represented with 71% of cases. Sex ratio 2.4.

Table II: Distribution of patients by origin

Provenance	Workforce	Percentage
Bafoulabé	9	9
Diéma	2	2
Kayes	74	74
Keniéba	1	1
Nioro	1	1
Sénégal	1	1
Yelimané	12	12
Total	100	100

The majority of patients came from the town of Kayes (74%).

Table III: Distribution of patients by reason for admission

Reason for admission	Workforce	percentage
Abdominal pain	87	87
Material and gas shut-off	6	6
Abdominal contusion	3	3
Painful inguinal swelling	3	3
Emission of bloody stools	1	1
Total	**100**	**100**

Abdominal pain was the most frequent reason for admission, accounting for 87% of admissions.

Table V: Distribution of patients by time to progression

Time	Workforce	percentage
<24H	12	12
]24H-48H]	24	24
]48H-72H]	53	53
]72H-96H]	4	4
>96H	7	7
Total	**100**	**100**

The time-to-event between 48H-72H was the most represented at 53%. The mean evolution time was 77.4, with extremes of 1 and 432. Standard deviation= 70.8

Table VI: Patients by pain site

Headquarters	Workforce	percentage
right iliac fossa	35	35
Hypogastrium	7	7
left iliac fossa	1	1
Umbilical	2	2
Epigastrium	5	5
Right hypochondrium	1	1
Right-hand side	1	1
Diffuse	46	46
Other	2	2
Total	**100**	**100**

Diffuse abdominal pain was the most common diagnosis, accounting for 46% of cases.

Table VII: Distribution of patients according to preoperative diagnosis

Diagnostic préopératoire	Workforce	Percentage
Appendicite aigue	37	37
Hémoperitoine	8	8
Hernie étranglée	4	4
Invagination iléo-caecale	2	2
Occlusion intestinale	15	15
Péritonite	34	34
Total	100	100

Acute appendicitis was the most common preoperative diagnosis (37%).

Table VIII: Breakdown of patients by time to surgery

Delay	Workforce	percentage
<24H	54	54
]24H-48H]	27	27
]48H-72H]	11	11
]72H-96H]	2	2
>96H	6	6
Total	**100**	**100**

Patients operated on less than a day were the most represented, at 54%.

Prior to treatment, 100% of patients had undergone an emergency workup (Rhesus blood grouping, hemoglobin level, blood glucose, creatinemia, unprepared abdominal X-ray, ultrasound). Therapeutically, 100% of patients received preoperative resuscitation (vascular filling, analgesics, antibiotics). In our series, 63% of patients were operated on under general anesthesia and 37% under locoregional anesthesia. The most common surgical approach was median laparotomy above and below the umbilicus, with a frequency of 58%. Surgically, 47% of patients underwent appendectomy, 22% perforation suture, 8% intestinal resection with anastomosis, 6% flange section and 17% other types of surgery. In terms of post-operative complications, 24% of patients had a grade 1 according to the GLAVIDIEN DINDON classification, 3% a grade 4, 2% a grade 2 and 1% a grade 1. 70% of patients had no post-operative complications. At 1 month, post-operative follow-up was uncomplicated in 94% of patients, and we observed 2 deaths; at 3 months, it was uncomplicated in 96%, and we observed one death. These deaths were related to peritonitis in 2 cases and intestinal occlusion in 1 case.

DISCUSSION

During our study, emergency digestive surgery represented 42.53% of all activities in the general surgery department of the Fousseyni Daou hospital in Kayes. This rate is comparable to that of SANGARE, S [9] who reported 44.80%, and lower than those reported by FONGORO, M [8] and DIALLO, F. K *et al.*, with 21.57% and 27.6% respectively. This may be explained by the size of their samples. These data testify to the importance of surgical emergencies. In our study, the mean age of patients was 14.63, with extremes of 4 and 70 years. The 10-20 age group was the most represented at 37%. This result is higher than that of FONGORO, M [8], who reported 21.7% for the same age group. In our series, the male sex was the most represented with 71.0%. The sex ratio was 2.4. This result is comparable to those of KAMBIRE, J. L *et al*., [10] and BERTHE, I. D [18], who reported 2.7 and 2.34 respectively. In African, Asian and European literature, digestive surgical emergencies generally concern young adult males [9, 5, 6]. Pupils/students and housewives were the most represented, with 32% and 20% respectively. In the majority of cases, 53% of patients were brought in by their parents. This is justified by the fact that the population prefers to consult the regional hospital directly, rather than going through the outlying health centers. 54% of patients were operated on within 24 hours of admission, and 24% between 24 and 48 hours. These delays can be explained by insufficient financial means to carry out certain complementary examinations, the non-availability of certain complementary examinations and often the non-availability of the emergency operating kit at the pharmacy of the Fousseyni Daou Hospital in Kayes. Abdominal pain was found to be the reason for consultation in 100% of patients. This explains why pain is the primary reason for consultation in digestive surgical emergencies. In all cases, its semiological characteristics and other associated signs enabled the diagnosis to be made. Pain has been reported in the literature as the most frequent reason for consultation. Several studies carried out by the authors [11, 12, 9, 18] included 100% of cases of pain. Appendicitis was the first etiology found, with a frequency of 37%. Diagnosis was essentially clinical. This rate is lower than that reported by HAROUNA.Y [13] in Niger and FANE.Y [14] in Bamako. Peritonitis was the second most common cause in our series (35%). Our rate is lower than that of DIABATE. S [16] in Bougouni, Mali, and ABDILLAHI I. [15] in Djibouti, who reported 17.89% and 16% respectively. In Niger, MAGAGI I, A *et al.*, reported a higher rate of 53.21%. Intestinal occlusion was found in 14% of cases, and diagnosis was intraoperative in 93.33% of cases. Our rate is comparable to that of KAMBIRE J. L *et al*., [10], who reported 16.3%. Hemoperitoneum was found in 8% of patients. The diagnosis was made mainly on the basis of clinical signs, and in some cases by ultrasound. This rate is comparable to that of DEMBELE K. S *et al.*, [17] in Douentza, who reported 6.93%. Appendicular abscess was found in 6% of patients. This is a complication of appendicitis. SANGARE, S [9] in Mali reported a rate of 10.8%. The rate of strangulated hernia was 3% in our series. FONGORO, M [8] and FANE, Y [14] reported rates of 5.4% and 6% respectively. In Europe, BARGY, F *et al*., [19] reported a rate of 1%. Therapeutically, we performed appendectomy in 47% of cases, perforation suture in 22%, anastomotic resection in 8%, flange section in 6% and other types of surgery in 17% of cases. Post-operative morbidity was classified according to the CLAVIEN DINDO classification, and was dominated by grade 1, with 24% of complications. The main morbidities were parietal suppuration and digestive fistula. The latter occur mainly during peritonitis and intestinal obstruction, and contribute to lengthening the patient's hospital stay. They are attributable to poor technique and asepsis. In our study, the postoperative course was straightforward in 70% of cases, with 30% of complications. We recorded 3 cases of death, including 2 due to peritonitis and 1 due to acute intestinal occlusion in sepsis. This result is comparable to those of FONGORO, M [8] and SANGARE, S [9], who reported 4 and 2 deaths respectively, i.e. 3.10% and 2.72%.

CONCLUSION

Digestive surgical emergencies occupy an important place in digestive surgical pathology, due to their high frequency at the Hôpital Fousseyni Daou in Kayes. The aetiologies are many and varied, requiring close multidisciplinary collaboration for management. Early diagnosis and length of treatment are the main prognostic factors. Well-conducted clinical examination is the key to diagnosis in our context.

Morphological examinations may be difficult to obtain or of limited value. They should not delay treatment.

Conflict of Interest: None

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