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Profile and Management of Surgical Emergencies at the Anaim Hospital in Kamsar (Guinea)

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Abstract: *Introduction:* In most African public hospitals, emergencies remain a frequent mode of admission. The aim of this study was to describe the epidemiological profile and management of surgical emergencies at ANAIM hospital in Kamsar (Guinea). *Patients and methods*: this was a prospective descriptive study lasting six months (October 2021 to April 2022) in the general surgery department at ANAIM hospital in Kamsar, covering all patients admitted for emergency surgery in the surgery department during the study period. *Results*: During the six-month study period, surgical emergencies accounted for 16.92% (n=203) of all admissions (N=1200). The mean age of patients was 29.87%, with extremes of 1 and 85 years. The sex ratio was 2.38, with males predominating (70%). Housewives were the most affected (27.10%). Acute appendicitis (24.1%), limb fractures (16.3%), acute bowel obstruction (13.3%) and acute peritonitis (11.8%) were the more frequent emergencies. The morbidity consisted mainly of surgical site infection (14.3%) and incisional hernia (3.4%). The overall mortality was 8.9%. *Conclusion*: Surgical emergencies, dominated by infectious diseases and fractures, are a major concern at ANAIM hospital in Kamsar. Our data showed that show clearly that late management because of lack of emergency kits and experienced surgeons increases the risk of postoperative complications and death. Thus, supplying the hospital with emergency kits and resuscitation means could considerably improve the quality of care for these patients.

Keywords: Surgical Emergencies, Epidemiology, Management, Anaim Hospital, Kamsar, Guinea

1. Introduction

Surgical emergencies are the response to situations where serious suffering predominates, requiring the patient to be relieved and the anxious family to be soothed [1]. Every day, the medical and paramedical teams are confronted with the difficulty of managing activity from a technical and financial point of view, as emergency interventions are considered as uncontrollable hazards and are managed on a daily basis by optimal planning [2]. The emergency department is seen as the hospital's showcase through which the quality of care can be assessed [2]. In African public hospitals, emergencies remain a frequent mode of admission [3].

In Guinea, Soumaoro LT et al in 2015 reported that surgical emergencies accounted for 53.93% of all surgical activities performed at the Nzérékoré regional hospital, with a mortality rate of 5.69% [4]. Difficulties in the management and diagnosis of surgical emergencies are linked to the inadequacy of exploration and resuscitation resources [5]. The aim of this study was to describe the epidemiological profile and management of surgical emergencies at the ANAIM hospital in Kamsar (Guinea).

2. Patients and Methods

This was a prospective descriptive study lasting six months

(October 2021 to April 2022) carried out in the general surgery department of the ANAIM hospital in Kamsar. This is the hospital of the Bauxite Company of Guinea located in Kamsar city at 255.1 km from the capital Conakry. It's the referral hospital for the entire region. The study focused on patients admitted and hospitalized in the surgical department for surgical emergencies during the study period. Variables studied included frequency, socio-demographic characteristics (age, sex, profession, and origin), etiologies, consultation time, management mode and therapeutic follow-up. Qualitative data were presented as proportions or percentages, while quantitative data were evaluated as means.

3. Results

We recorded 203 (16.9%) cases of surgical emergencies out of all the admissions during the period of six months (n= 1200). The mean age of the patients was 29.87 ± 17.86 years old (extremes of 1 and 85 years old) and the most represented age group was that of 26 to 35 years. There was a male predominance (70%), with a sex ratio of 2.4. In the cohort, housewives with 27.1% of cases were the most represented followed by and the students (21.2%). Among them, 71.9% consulted within the first 24 hours following the onset of the symptoms. In terms of trauma, road traffic accidents were the most common circumstance (n=57; 28.1%), followed by accidents at work (n=6; 4.4%). Abdominal tenderness or contracture (68.9%) and abdominal ballooning (16.8%) were the main observed physical signs. X-rays (37.4%) and ultrasound (29.1%) were the most frequently performed imaging procedures. The table 1 shows the distribution of patients by diagnosis. Among them, 85.7% (n=174) had emergent surgery against 14.3% (n=29) who received conservative treatment. Figure 1 summarizes the morbidity and mortality occurred during the therapeutic follow-up. The mean hospital stay was 7.95 ± 0.74 days, with extremes of 1 and 21 days.

Table 1. *Distribution according to the diagnosis.*

Diagnosis	Number	Percentage
Acute appendicitis	49	24.1
Limb fractures	33	16.3
Acute intestinal obstruction	27	13.3
Acute peritonitis	24	11.8
Strangulated hernia	21	10.4
Abdominal blunt trauma	18	8.9
Liver abscess	15	7.4
Head trauma	9	4.4
Abdominal wound	7	3.4
Total	203	100

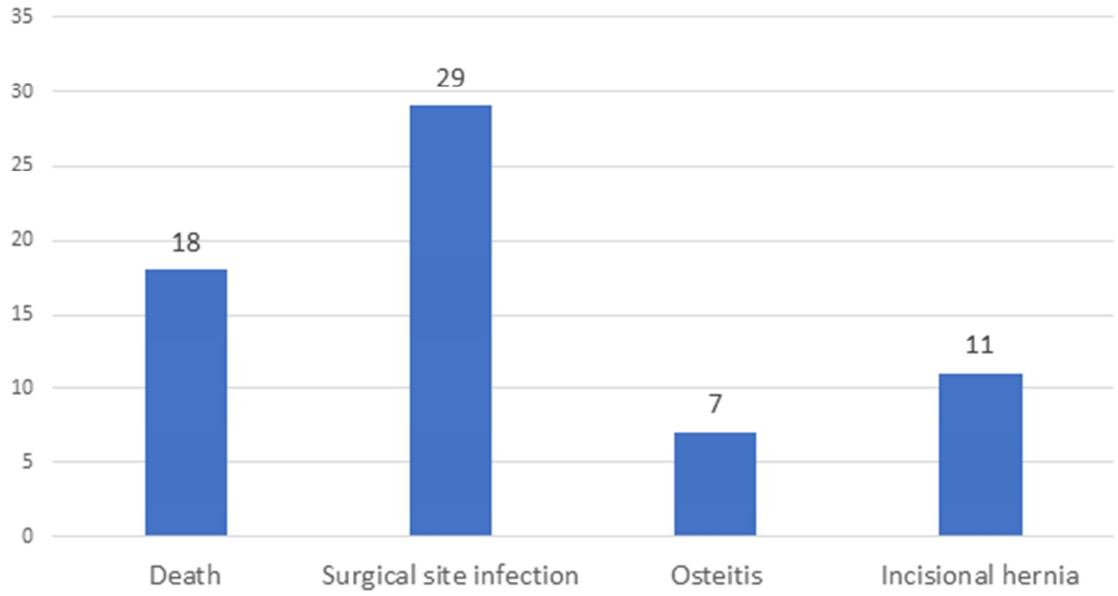

Figure 1. *Distribution according to morbidity and mortality.*

4. Discussion

During this six months study, we found a relatively low incidence of surgical emergencies compared to recent studies from African countries [6-10]. The reason may be that our cohort did not concerned the general population of the region.

The predominance of young male adults in this series is reported in various African series [10, 11] and can be explained on the one hand by the fact that men are more involved in high-risk activities and more exposed to pathologies such as trauma and hernias, and on the other hand by the fact that this most active segment of the population is heavily involved in driving motorcycle cabs, the means of transport most used in that locality.

Accidents on the public highway, followed by accidents at work, have been the main circumstances for the occurrence of trauma reported in data from various studies carried out in the country's prefectural hospitals [9, 10], as is the case in our study. The predominance of road accidents in our study can be explained by the proliferation of motorcycle cabs, excessive speeding, failure to observe traffic regulations, the

lack of helmets for two-wheelers and seatbelts for public transport, the dilapidated state of the road network, and the high level of industrialization in the town of Kamsar, which employs a large workforce.

Pain and functional impotence as the main symptoms of consultation in our series represented and the diagnosis was mainly based on clinical presentation of the disease. Actually, abdominal pain is one of the most frequent reasons for emergency consultation, and up to 20% of these are indicative of an organic lesion that will lead to surgical management [12, 14]. The unavailability of CT scan and the cost of ultrasound in our environment have been observed in some studies carried out in low income countries [9, 10]. Particularly for those blunt abdominal trauma, the American approach of ''focused abdominal sonography for trauma'' (FAST) have demonstrated to be helpful in avoiding wrong diagnosis and unnecessary laparotomies.

In general, trauma and infectious disease are the most common diseases in emergency in our context. Magagi IA et al [6] in Niger reported that fractures, acute appendicitis, acute generalized peritonitis and strangulated hernia were the main preoperative diagnoses, as we found in our series. Similar studies carried out in the country reported the same finding [7, 9].

Therapeutically, all patients had received medical treatment; 89.74% had undergone surgical treatment and 63.86% had received orthopedic treatment [13].

The mortality rate of 8.9%, although low compared with that reported elsewhere, may be due to the high proportion of low-morbidity pathologies, in particular appendicitis and fractures [14-17].

5. Conclusion

Surgical emergencies remains a real challenge for health care services dominated by infectious diseases and trauma at ANAIM hospital in Kamsar. Our findings show clearly that late consultation and lack of emergency kits and experienced surgeons increases the risk of postoperative complications and death. Also the prolongation of the hospital stay increases considerably the financial burden of the family but also increases the risk of occurrence of nosocomial infections. Heath education of the population, training of the staff and the equipment of our hospitals would improve the quality of care for our population.

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