



Research Article

Acute Generalized Peritonitis: Management in the General Surgery Department of Ignace Deen University Hospital

Mamadou Sakoba Barry^{1,2*}, Camara Mariama^{1,2}, Houssein Fofana^{1,2}, Fatimatou Diallo¹, Aboubacar Toure^{1,2}

¹Department of General Surgery, Ignace Deen National Hospital, Conakry University Hospital, Conakry, Guinea

²Faculty of Health Sciences and Technology, Gamal Abdel Nasser University of Conakry, Conakry, Guinea

***Corresponding author:** Mamadou Sakoba Barry, Department of General Surgery, Ignace Deen National Hospital, Conakry University Hospital, Conakry, Guinea

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Abstract

Introduction: The aim was to contribute to the management of acute generalized peritonitis (AGP) in the general surgery department of the Hôpital National Ignace Deen, Conakry.

Methods: This was a 6-month dynamic descriptive study (June 1 - November 30, 2021) in the general surgery department of the Hôpital National Ignace Deen, CHU de Conakry. All patients received, operated on and followed up in the department for acute generalized peritonitis during the study period were included.

Results: During the study period, we collected 245 cases of abdominal surgical emergencies, of which 62 were PAG, i.e. 25.3% of cases. The mean age was 33.9. The sex ratio was 3.13 in favor of men. Clinical signs included abdominal pain and abdominal contracture/defensiveness in all patients.

An unprepared abdominal X-ray (UPX) was performed in 95.2% (n=59). Peptic ulcer perforation accounted for 41.9% (n=26) of cases. Cleansing followed by drainage was performed in all patients (100%). Excision and suturing of perforations were performed in 77.4% (n=48) of cases. Post-operative management was straightforward in 80.6% (n=50) of cases. We recorded 11.3% (n=7) surgical site infection and 6.4% (n=4) stercoral fistula. Mortality was 8.1% (n=5). Average hospital stay was 16.5 days.

Conclusion: PAG is a frequent abdominal emergency. Their etiologies are multiple. Management is medical-surgical. Good resuscitation and peritoneal cleansing could improve the management of acute generalized peritonitis.

Keywords: Acute Generalized Peritonitis Management

Introduction

Acute generalized peritonitis is an acute disseminated inflammation of the peritoneum caused by septic inoculation, most often from an intraperitoneal organ, and more rarely after systemic contamination [1]. They may be primary, secondary or tertiary. Peptic ulcer perforation is the most frequent etiology. Ileal perforations are also found to a lesser extent in series from tropical countries [2]. In sub-Saharan Africa, they pose a real public health problem, due to the morbidity and mortality they entail [3]. Management combines pre-, intra- and postoperative resuscitation, surgical eradication of intraperitoneal infection and appropriate antibiotic therapy [4]. It is a serious medical and surgical emergency. Its severity depends on the patient's age, general condition, associated defects, etiology and the time required for treatment [5]. The aim of this study was to contribute to the improvement of the management of acute generalized peritonitis in the General Surgery Department of the Ignace Deen National Hospital- University Hospital of Conakry.

Methodology

This was a dynamic descriptive study lasting six (6) months from June 1 to November 30, 2021, carried out in the General Surgery Department of the Ignace Deen National Hospital, University Hospital of Conakry. We targeted all patients received and operated on for abdominal surgical pathology in our department during the study period. All patients admitted to the department for acute generalized peritonitis during the study period were included. All patients received, operated on and followed up in the department for acute generalized peritonitis during the study period were included. Our study variables were quantitative and qualitative. Our data were collected through individual interviews, consultation registers, operative report registers and individual medical records, and recorded on an established survey form.

Results

During the study period, 245 patients were taken into care in the department. Among them, we noted 62 (25.3%) cases of acute generalized peritonitis. The mean age of patients was 33.9 years, with extremes of 12-72 years, and the age group most affected was 15-29 years, i.e. 46.8% (see Table 1). Males were most affected, with 75.8% (n=47) of cases and a sex ratio of 3.1. In terms of consultation delay, 46.8% (n=29) of patients consulted after 4 days (see Table 2). The clinical picture was dominated by abdominal pain and abdominal defense/contraction in all patients (100%) (see Table 3). An X-ray of the abdomen without preparation

was performed in 95.2% (n=59) of patients. The findings were dominated by diffuse grayness in 95.2% (n=59) of cases, pneumoperitoneum in 61.3% (n=38) of cases, and hydroaerosol levels in 19.4% (n=12) of cases. All patients had a complete blood count (100%). Hyperleukocytosis of more than 13,000 globules/mm³ was noted in 46.8% (n=29) of cases, and anemia in 17.7% (n=11).

All our patients benefited from preoperative, intraoperative and postoperative resuscitation medication (rehydration fluids, analgesics, antibiotics, urinary catheter and nasogastric tube). Six (6) patients received a blood transfusion (9.7% of cases). The surgical approach was median laparotomy above and below the umbilicus in all patients (100% of cases). Surgical procedures included peritoneal cleansing and drainage of the Douglas, followed by treatment of the cause in all cases. Surgical treatment of the cause was dominated by excision-suture of perforations in 77.4% (n=48) of cases, and appendectomy in 24.2% (n=15). Etiologies were dominated by peptic ulcer perforation in 41.9% (n=26) of cases, followed by appendicular peritonitis in 24.2% (n=15) (see Table 4). Post-operative management was straightforward in 80.6% (n=50) of cases. Morbidity included surgical site infection in 11.3% (n=7) of cases, and digestive fistula in 6.4% (n=4). Mortality was 8.1% (n=5). The average hospital stay was 16.5 days, with extremes of 3 and 61 days (Figures 1,2).

Age groups (in years)	Headcount	Percentage
< 15	3	4.8
15-29	29	46.8
30-44	13	21
45-59	13	21
≥ 60	4	6.4
Total	62	100

Table 1 : AGP frequency by age group.

Consultation time (in days)	Count	Percentage
01-Feb	9	14.5
03-Apr	24	38.7
>4	29	46.8
Total	62	100

Average consultation time: 4.8 ± 2.6 j Extremes: 1 et 11 j

Table 2: Distribution of patients by consultation time.

Clinical signs	Count	Percentage
Functional:		
- Abdominal pain	62	100
- Vomiting	39	62.9
- Stoppage of matter and gas	34	54.8
Physiques:		
- Abdominal defense/contraction	62	100
- Umbilical cry	55	88.7
- bulging and pain of the Douglass	52	83.9
- Sloping dullness of flanks	46	74.2
- Disappearance of pre-hepatic dullness	38	61.3

Table 3: Distribution of patients by reason for consultation.

Etiologies	Count	Percentage
Peptic ulcer perforation	26	41.9
Appendicular peritonitis	15	24.2
Non-traumatic ileal perforation	11	17.8
Post-operative peritonitis	8	12.9
Colonic perforation	1	1.6
Pyosalpinx rupture	1	1.6
Total	62	100

Table 4: Distribution of patients by AGP etiology.

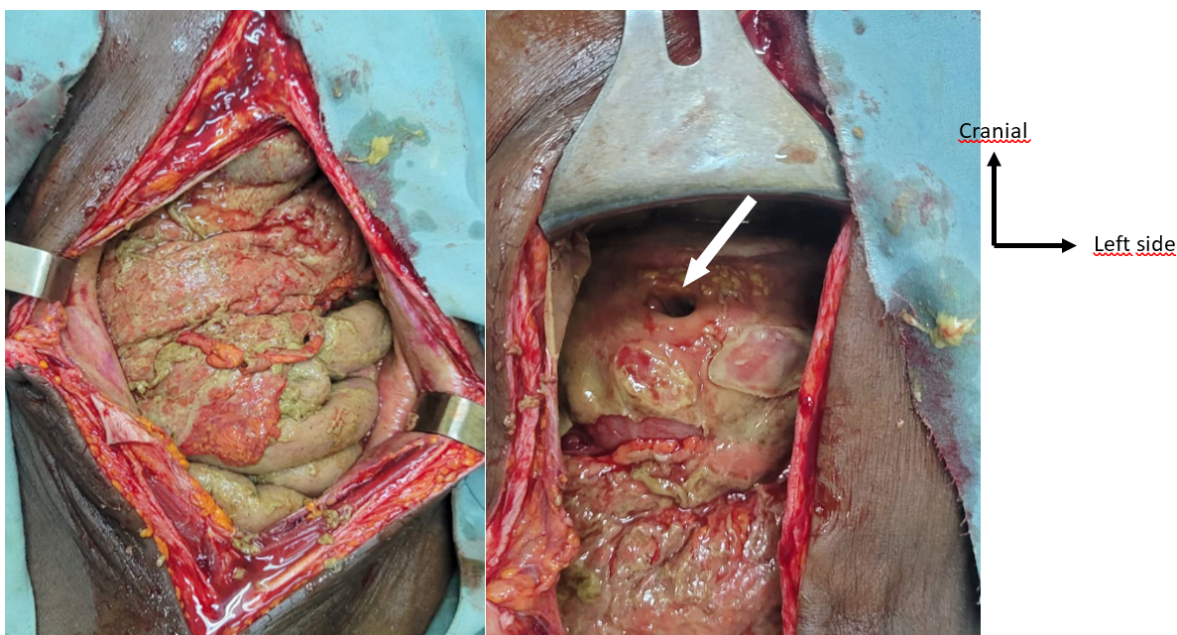


Figure 1: Iconography.

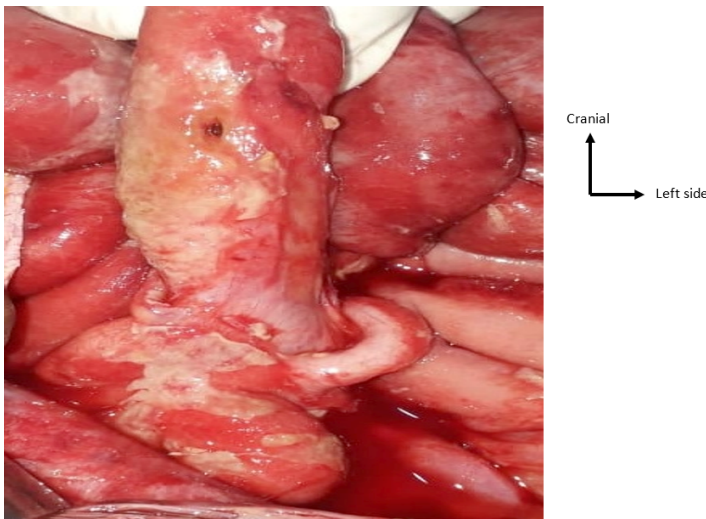


Figure 2: Ileal perforation.

Discussion

The difficulties we encountered during our study were the unavailability of Certain Imaging (CT) and biological examinations. Peritonitis is a frequent surgical emergency. In our series, we recorded a high frequency of acute generalized peritonitis. Our result was close to that of Katungu NS et al [1] in 2020 in the Democratic Republic of Congo, who reported 35.08% of PAG cases. Our frequency was higher than that of Naby CS et al [7] in Guinea in 2021, who reported 7.80% of cases. This could be explained by the fact that Naby CS's study was carried out in a district (regional) hospital, unlike ours, which was carried out in a referral department at the university hospital. In our study, we noted a predominance of young adults. Our result was comparable to those reported by Choua O et al. in Chad in 2017 and Sogoba G et al. in Mali in 2021 [8,9], who respectively reported a mean age of 25.8 years with extremes of 1 and 70 years and 40.1 years with extremes of 1 and 80 years. This predominance of peritonitis in young adults in Africa is in line with the population's predominantly young age. It could also be explained by the existence of risk factors for acute generalized peritonitis, such as alcohol, tobacco and abdominal trauma.

We recorded a male predominance. Although gender is not a risk factor, our result is consistent with data reported by Keita DM et al [10]. This could be explained in our context by the fact that male subjects are more exposed to PAG risk factors than females. Abdominal pain was the main reason for consultation in all patients, followed by nausea-vomiting and cessation of bowel movements and gas. Our results were similar to those of Naby CS et al [7] in Guinea in 2021, who reported 100% abdominal pain, 78.78% nausea and vomiting, and 75.75% cessation of

bowel movements and gas. The same observation has been made by several other African authors [6,9,10]. These symptoms are frequently found in abdomino-digestive emergencies. We noted a delay in consultation in our study. Our result was similar to that of Sogoba G et al [9] in Mali in 2021, who found a mean course of 4.5 days, with extremes of 1 and 8 days. In our context, patients usually self-medicate or turn to traditional healers as soon as the first symptoms appear. It's at the critical stage of the disease that we receive them in hospital. On physical examination, abdominal defensiveness/contracture was found in all our patients, followed by umbilical crying and a bulging, painful Douglas. Our results are similar to those reported by other authors [8-10]. The high frequency of abdominal defensiveness could be explained by the delay in patient consultation. Most of our patients underwent an unprepared abdominal X-ray. The same observation was made by Rakotomavo F et al [11] in 2012 in Madagascar and Sogoba G et al [9] in Mali in 2021 who reported the presence of radiological pneumoperitoneum with respective rates of 60% and 66.7%. The etiologies found in our study were dominated by peptic ulcer perforation, followed by appendicular peritonitis. Our results were similar to those reported by Kambiré J et al [12] in Burkina Faso in 2018, with 17.2% of cases, in contrast to Keita DM et al [10] in Guinea in 2023, who found a predominance of appendicular perforation with 55% of cases. In our context, this could be explained by the deterioration of socio-economic conditions in our country, which favours *Helicobacter pylori* infection, self-medication (taking anti-inflammatory drugs) and narcotics by the socio-demographic stratum most concerned in our study, on the one hand, but also the delay in consultation and recourse to traditional medicine, which favours complications of acute appendicitis, on the other. Adjuvant medical treatment consisted of pre-, intra- and postoperative resuscitation. Median laparotomy above and below the umbilicus was the only approach used in all patients. The surgical approach to acute generalized peritonitis depends on the surgeon's intraoperative findings. All our patients underwent peritoneal cleansing, Douglas drainage and etiological treatment. Etiological treatment consisted of excision-suture of perforations and appendectomy. Our results were similar to those reported by Choua O et al, Sogoba G et al, Keita DM et al [8,9,10]. Postoperative follow-up was overall satisfactory. However, we recorded morbidity in the form of surgical site infection and stercoral fistula. These deaths were attributable to stercoral fistulas and anesthesia complications in the recovery room. Keita DM et al [10] in Guinea in 2023 reported 87% simple sequelae, 6.45% parietal suppurations, 3.22% ventrations and 3% deaths. Delayed consultation and bacterial proliferation during peritonitis rendering surgery septic could account for the occurrence of these complications. The average length of stay was long in our series. Choua O et al [8] in Chad in 2017 found an average hospital stay of 8.5 days, with extremes of 2 and 150 days. This long patient

stay could be explained by the occurrence of postoperative complications.

Conclusion

Acute generalized peritonitis is a frequent abdominal emergency. It is a pathology of young adult males. The etiologies are multiple. Management is medico-surgical. Good resuscitation and peritoneal cleansing could improve the management of acute generalized peritonitis.

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