



(RESEARCH ARTICLE)



Contribution of imaging to the management of acute generalized peritonitis in the visceral surgery department of the Sino-Guinean hospital

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Abstract

Introduction: Acute generalized peritonitis is a life-threatening emergency. It is most often secondary to a perforation of the digestive organ and or to the spread of an intra-abdominal septic area.

Methodology: We carried out a descriptive retrospective study lasting from January 1, 2018 to December 31, 2018 on the contribution of imaging in the management of acute generalized peritonitis general surgery department of the hospital Chinese-Guinean. Were included in our study, all records of patients with acute generalized peritonitis will be confirmed by imaging. We carried out an exhaustive recruitment of all complete files. Our variables were analyzed using the Epi-info 7.2 software.

Result: Out of 578 hospitalized patients, peritonitis represented 8.8% of cases. We noted a male predominance with 60.8% and a Sex-ratio: M / F = 1.6 whose mean age was 41.9 ± 13.5 years; extremes ranging from 17 and 67 years with a modal class ≥ 30 years or 88.3%. Housewives were the most collected with 25.5%

Abdominal pain was the main reason for consultation, i.e., 90.2%, the physical sign was dominated by a convex and sensitive Douglas-fir, i.e., 27.5%.

The clinical diagnosis was supported by abdomen without preparation and abdominal ultrasound; performed in 84.3% and 15.7% of patients, respectively.

We noted a morbidity rate of 15.7% dominated by septic shock (15.7%).

Conclusion: Our study made it possible to determine the contribution of imaging in the management. In addition, in our study, the abdomen without preparation and the abdomino-pelvic ultrasound were revealed as a key link in the management of acute generalized peritonitis.

Keywords: Acute peritonitis; Imaging; Visceral surgery at the Sino-Guinean hospital

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1. Introduction

Acute generalized peritonitis is acute inflammation of the peritoneum. It is most often secondary to a perforation of the digestive organ and or to the spread of an intra-abdominal septic site [1].

Peritonitis is said to be generalized when it spreads throughout the peritoneal cavity. It is a life-threatening emergency requiring hospitalization and rapid treatment [2]. The prognosis for secondary generalized peritonitis depends as much on the cause and the site as on the early treatment [2].

It occupies the 3rd place in emergencies in digestive surgery in Africa after occlusions and acute appendicitis [3].

In the United States: According to a study carried out in 2004, 17% of appendectomies were complicated by peritonitis with mortality of 0.4% and morbidity of 0.31 to 5.1% [4, 5].

In Germany and all [6] found 58% of deaths in 36 patients with severe peritonitis.

In Asia: Ramachandran C.S and all [7] in 2004 reported in their study that in the event of multiple organ failure at the time of surgery, the prognosis can reach 70 to 80% of death.

In AFRICA: According to a series of studies carried out in 2005 and 2006, this frequency varied from 28.1% in Congo to 49% in Niger with a mortality of 20.98% and a morbidity of 49% [8,9].

In Burkina Faso: Sanou D et al. [8] in 1999 noted in his study that late arrival of patients to hospital, coupled with long and complex procedures contributed to an increase in mortality.

In Mali: Malle O. in 2015 in his study found a frequency of acute peritonitis of 7.4% [10].

The diagnosis of acute peritonitis is primarily clinical. In case of doubt, radiological examinations can help in the diagnosis.

2. Methodology

This was a descriptive retrospective study lasting 3 years from January 1, 2018 to December 31, 2020 carried out in the surgical department.

Our study population consisted of all patients with and taken in surgery for acute generalized peritonitis in the general surgery department of the Sino-Guinean hospital.

Were included in our study, all admitted patients whose diagnosis of acute generalized peritonitis will be confirmed by imaging.

Not included in our study, all the patients who will not agree to be part of the study, and all the patients not admitted for another pathology to the general surgery department of the Sino-Guinean hospital outside of our study period.

We carried out an exhaustive recruitment of all complete files during our study period which we submitted to our selection criteria.

Study variables were epidemiological, clinical, paraclinical, and therapeutic.

3. Results

During our study period 578 patients were admitted in emergency, among them acute generalized peritonitis represented 8.8 percent or 51 cases.

The other surgical pathologies represented in our series 91.2 % for 527 cases.

The average age of our patients was 41 years with extremes of 17 years to 67 years.

The sex ratio of nearly 1.6 reflected a clear male dominance of affection

Table 1 Distribution of patients according to the parameters

Parameter	Number	Proportion (%)
Blood pressure		
PAS \leq 14 CmHg et/ou PAD \leq 9 CmHg	46	90.2
PAS \geq 14 CmHg et/ou PAD \geq 9 CmHg	5	9.8
Pouls		
50-100 batt/min	45	88.2
> 100 bat/min	3	5.9
System missing	5.9	5.9
Temperature		
< 35.5°C	39	76.5
35.5-38.5°C	8	15.7
Respiratory rate		
14-20 cycles/min	29	56.9
> 20 cycles/min	16	31.4

Table 2 Distribution of patient according to the functional sign

Functional signs	Number	Proportion (%)
Abdominal pain	46	90.2
Vomiting	24	47.1
Material and gaz shutdown	20	39.2
Nausea	16	31.4
physical asthenia	8	15.7
Fever	6	11.8
Abdominal bloating	4	7.8
Righ iliac fossa pain	4	7.8
Abdominal contracture	3	5.9
Anorexia	3	5.9
Constipation	1	2.0

Table 3 Distribution of patient according to the imaging

Imaging	Number	Proportion (%)
ASP	43	84.3
thoracic Rx	12	23.5
abdominal and -Pelvic echography	8	15.7
Coloscopy	6	11.8
Abdominal echography	6	11.8
Electrocardiography	3	5.9
Pelvic x ray	1	2.0

Table 4 Distribution of patients according to the drug management.

Drug	Number	Proportion (%)
antibiotic	51	100
Analgesic	51	100
Antipyretic	51	100
Antacid	51	100

4. Discussion

We carried out a descriptive retrospective study lasting 3 years from January 1, 2018 to December 31, 2020. It involved 51 patients operated on for acute peritonitis.

Patients were identified from hospitalization records and from report and consultation records. Out of a number of 578 patients hospitalized during our study period, 51 patients had acute generalized peritonitis, ie 8.8%.

The mean age was 41.9 ± 13.5 years with extremes of 17 and 67 years and a modal class ≥ 30 years or 88.3%. Our result is lower than that reported by Mensier A. et al. [46] whose average age was 53, on the other hand, he was higher than that of Ibrahima KA. et al. [47] who found an average age of 25.05 years.

This young age in the tropical series could be explained by the fact that the African population is almost young and of which Guinea is no exception. We found a male predominance or 60.8% with a sex ratio M / F = 1.6.

The onset was sudden in 54.9% of our patients against 45.1% of progressive onset.

Our result is different from that of Badra AD. Et al. [15] who had indicated in his study that the onset of pain was progressive in 60% of cases.

Our result is similar to those of MALLE O. et al. [16], DISSA BA. Et al. [15] and RAHMAN G.A. et al. [17] who reported in their study that abdominal pain was the most collected functional sign with 100%, 96%, 90.6% respectively.

The frequency of functional signs is different according to the authors [11].

This difference could be related to the different etiologies, the delay in consultation and the stage of the disease. Abdominal pain remains the dominant functional sign according to several authors. Abdominal pain was found in 90.2% of our patients.

Bulging and sensitive Douglas-fir was the most reported physical sign with 27.5%

Our result is lower than those found by MALLE O. et al. [11] and HAMADOUN AC. et al. [18] 70% and 87.5% successively.

The diagnosis of acute generalized peritonitis is primarily clinical [13].

The physical examination is most often the central element in making a treatment decision. When performed correctly and carefully and in the face of the existence of certain objective physical signs, the physical examination may allow the surgeon to do without additional examinations to establish the indication for surgery [11,19].

Abdominal contracture is the major physical sign [11].

PSA was performed in 84.3% of our patients, chest x-ray in 23.3%, abdominopelvic ultrasound in 15.7%, while colonoscopy and abdominal ultrasound in 11.8%.

Our result is lower than that of Badra AD. et al. [15] who reported that PSA was performed in 16.7% of cases, while ultrasound was performed in 73.3% of cases.

Centered on the diaphragmatic domes can reveal, in the event of suspicion of digestive perforation, a pneumoperitoneum [1].

In other forms of peritonitis, this X-ray is of no value and should not be requested systematically. At a late stage of evolution, it reveals an ileus [1].

Ultrasound has the advantage of being readily available, that it can be performed and repeated in bed (all devices are mobile) and that it is completely harmless [14].

Mortality had occurred in 15.7% as against 84.3% left the improved service.

Our result is close to that of MALLE O. et al. [16] 13.5% on the other hand, it is higher than that reported by ALOU HAMADOUN AC. Et al. [18] which was 5%.

In Africa as in Europe, this rate varies between 13.5% and 46%, the operative procedure can have a predictive impact on the postoperative consequences [17,20].

This could be related to the size of the sample and the stage of development of the patients.

The mean length of stay was 14.3 ± 13.5 days with extremes of 1 and 65 days

Our result is superior to that of Badra AD. et al. [15] who reported an average length of stay of 9 ± 1.08 days.

5. Conclusion

Acute generalized peritonitis is a surgical emergency frequent. It occupies an important place in surgical pathologies in general and mainly concerns young subjects.

The diagnosis is mainly clinical, the contribution of the paraclinical essential in the etiological diagnosis and the management is medico-surgical.

Compliance with ethical standards

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Disclosure of conflict of interest

The authors declare that there were no conflicts of interest in the scientific writing of this work.

Statement of informed consent

All of the authors who appear in this article have an equal share of and agree to the publication of this article in your journal.

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