

Peritonitises Gastroduodenal by Perforation Him of the Hospital of Sikasso: Aspects Epidemio-Clinical and Sanative

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Abstract

Original Research Article

The aim of the work was to describe the epidemiological, clinical and therapeutic aspects of peritonitis by gastroduodenal perforation. Patients and methods: the study was retrospective, and descriptive from January 2010 to December 2013. It was carried out in the general surgery department of the hospital of Sikasso (Mali). Patients operated for gastric and/or duodenal perforation were included. The parameters studied were frequency, age, sex, clinical aspects, and treatment, postoperative. **Results:** The clinical records of 54 patients were collected. Gastroduodenal perforations accounted for 9.2% of digestive perforations. The mean age of the patients was 34.8 years, with a sex ratio =9.8 at the risk of men. The notion of taking non-steroidal anti-inflammatory drugs was found in 72.2%, an ingestion of plant decoction in 18.5%, a history of gastritis in 7.4%, a history of peptic ulcer in 8%. Abdominal pain was present in all patients; vomiting in 19 patients. The average duration of evolution of the symptomatology was 36 hours. On physical examination the most frequent signs were abdominal contracture in 96.2% of patients; a disappearance of prehepatic dullness in all patients. On digital rectal examination Douglas-fir was bulging and painful in 24 patients. X-ray of the abdomen without preparation found pneumoperitonea in 77.7% of patients. An excision, suture plus omentoplasty were performed in 52 patients. Surgical follow-ups were simple in 77.9% patients, with a morbidity of 12.9% and a mortality of 9.3%. **Conclusion:** Peritonitis by gastroduodenal perforation is a frequent pathology in our context. It can cause a high mortality. Early diagnosis and treatment could improve outcomes.

Keywords: Peritonitis, perforation, gastric, duodenum, Sikasso(Mali).

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INTRODUCTION

Perforation is a pathological opening in the wall of a hollow organ [1]. Peptic ulcer is a chronic pathology, one of the complications of which is perforation. Peritonitis by gastroduodenal perforation is usually due to perforated ulcer 80-90% sometimes to toxic gastro medications or traumatic perforation and exceptionally to perforated stomach cancer 0.9-3.4% [2]. Peritonitis is a public health problem in sub-Saharan Africa because of the higher mortality and morbidity it causes [3-5]. The incidence of these perforations was estimated between 4cases and 14cases per 100000 inhabitants [6, 7]. This deadly condition has a variable frequency in Africa, requiring rapid

management. Vignon [8] estimates them at 13.8 cases per year; kambiré [6] finds 25 cases with a mortality of 24%. The diagnosis is made from the clinical signs of peritonitis but also through the data of morphological examinations including the signs of perforations of hollow organs. The aim of this work was to describe the epidemiological and therapeutic clinical aspects of peritonitis by gastroduodenal perforation at Sikasso Hospital.

METHODOLOGY

The study was retrospective and descriptive from January 2010 and December 2013. It was carried out in the general surgery department of the hospital of

Sikasso (Mali). The origin of the gastroduodenal perforation was oriented through the history, seat and mode of installation of abdominal pain. A syndrome of peritoneal irritation, intraoperative anatomical lesions were also elements. The parameters studied were the signs of acute peritonitis, the macroscopic aspects of intraoperative lesions (seat and type of perforation orifices, appearance of the liquid and the amount in the peritoneal cavity). Treatment of the lesions was an excision-suture, plus omentoplasty, peritoneal toilet and drainage. Morbidity and mortality were also studied. An X-ray of the abdomen without preparation was requested at admission of the patient.

Medical treatment combining hydro electrolyte resuscitation and tri-antibiotic therapy (Cephalosporins, metronidazole, and aminoglycoside) from the

diagnostic presumption. Laparotomy was done 2 to 6 hours after medical treatment.

RESULTS

The clinical records of 54 patients were collected. Gastroduodenal perforations accounted for 9.2% of digestive perforations, 8.1% of abdominal emergencies, and 1.3% of hospitalized patients. The mean age was 34.8 years with a standard deviation of ± 14.11 , extremes of 18 years and 72 years. The sex ratio was 9.8. The average duration of evolution of the symptomatology was 36 hours.

The notion of taking nonsteroidal anti-inflammatory drugs was found in 72.2%, an ingestion of plant decoction in 18.5%, a history of gastritis in 7.4%, a history of peptic ulcer in 8%. The clinical signs are summarized in Table 1.

Table-1

Clinical signs	Effective	Percentage %
Abdominal pain	54	100
Stopping of materials and gases	10	18.5
Vomiting	19	35.2
Abdominal contracture	52	96.2
Disappearance of prehepatic dullness	54	100
Douglas fir bulging and painful	24	44.4

The ASA classification of patients is summarized in Table 2.

Table-2

ASA classification	Effective	Percentage %
ASA I	14	26
ASA II	29	53.7
ASA III	07	13
ASA IV	04	7.3

Radiography of the abdomen without standing preparation from the front was performed in all patients (100%) and objectified pneumoperitoneum (gas crescent) in 77.7% of patients. Abdominal computed tomography was desirable, not performed because of the accessibility of this examination. The blood count performed in all patients showed anemia in 28% of cases, and hyperleukocytosis in 39% of cases. Resuscitation was pre- per and postoperative based on the correction of hydro-electrolyte disorders and

anemia. Preoperative resuscitation (2 to 6 hours), patients received on average 1litre of solute based on saline, glucosated serum 5%, Ringer Lactate. The bladder probe and the nasogastric probe were laid in all patients. Antibiotic therapy concerned all patients combining Cephalosporins, Metronidazole, Gentamycin.

Patients benefited from prôtron pump inhibitor and parenteral paracetamol 1g. The abdominal approach was a supra and sub-umbilical median, under general anesthesia and an orobracheal intubation. The amount of effusion aspirated was greater than 1000ml for 19 patients and less than 1000ml for 35malades. The effusion was diffuse in all quadrants of the abdomen. The peritoneal effusion generally had a greenish appearance, sometimes associated with food debris. The intestinal loops were agglutinated together by false membranes in the majority of patients. The seat of the perforation is shown in Table 3.

Table-3

Puncture seat		Effective	Percentage %
Antral perforation	Front side	40	74.1
	Posterior side	3	5.5
Duodenal perforation		11	20.4

The bank of the perforations was necrotic and rounded with an average size of 1cm of the extremes of 0.5cm and 1.5cm. Histology has made it permitted to note 26(48.1%), gastric ulcers, 11(20.4%) of duodenal

ulcers. Excision-suture plus omentoplasty associated with peritoneal toilet and drainage was achieved in 52(96.3%) patients. Two patients did not benefit from 3.7% omentoplasty.

The postoperative treatment consisted of the administration of ceftriaxone antibiotics combined with Metronidazole and Gentamycin and rehabilitated according to the result of the antibiogram. In addition, helicobacter pylori has been eradicated and proton pump inhibitors have been used. The germs found in the cytobacteriological study were Escherichia Coli 19(35.2%), kleibsel 6(11.1%), sterile culture 14(25.9%). The average stay was 8.6 days, with extremes of 1 and 32 days. Postoperative follow-ups were simple for 42(77.9%) patients. The postoperative complications were parietal suppuration for 4(7%) patients requiring local care, and a pus sample for antibiogram. A peritoneal toilet and drainage was performed for the 1(1.9%) patient with postoperative peritonitis. Delay in healing was observed for 2(4%) patients. Mortality was 5(9.3%), 4 patients died for hemodynamic shock, 1malade for septic shock.

DISCUSSION

The frequency of gastroduodenal perforations remains high in developing countries. The Sikasso region is located in the south of Mali and its population is mainly rural. Adverse socio-economic conditions, self-medication and traditional treatment are essentially the risk factors. This high frequency is found in African series including Kassegue [9] in Togo, Dieng [10] in Senegal with $n = 54$ and $n = 109$. The male predominance is clear. Vignon [8] reports a sex ratio of 16.2 and our series 9.8. The average age of 34.8 years found in our series is close to that of Vignon [8] 34.2 years. This population is relatively young contrary to the study of Moller [11] 54 years. In this study was blamed the nonsteroidal anti-inflammatory in 72.2%. This observation was evoked by the author Ohene-Yeboah [12] in the occurrence of gastroduodenal perforation. The average duration of evolution of 36 hours of the symptomatology seems quite considerable. This long consultation period is explained by the difficult access of health facilities. Self-medication and traditional treatment are also common practices before consultation in a health facility. The clinical presentation was a peritoneal syndrome. Abdominal pain was the master symptom 100% in our series as in the kambiré study [6]. Abdominal contracture was noted in 52(96.2%) of patients versus 21(24.4%) of Vignon [8]. Douglas 24(44.4%) calls in this study were lower than Vignon's 70(81.4%) [8]. The discontinuation of matter and gas 13(52%) patients of the author kambiré [6] was higher than our series 10(18.5%). The only imaging examination often available urgently in our structures in Africa remains the X-ray of the abdomen without preparation. This X-ray allows only a diagnostic orientation in case of perforation of a hollow organ. Other tests such as a CT scan can clarify the etiology and nature of the lesion. X-ray of the abdomen without preparation was performed in all our patients. Even under satisfactory technical conditions, Touarel [13] reports that the sensitivity of radiography of the abdomen without preparation varies from 50% to 70%

in the search for pneumoperitoneus. Thus we found a rate of inter hepatostatic gas crescent of 77.7%. This result is close to those brought by Coulibaly [14] 63.9% of cases and Vignon [8] 77.6% of cases. Resuscitation is one of the pillars of treatment. It increases patient survival and must be pre- and post-operative. Preoperative resuscitation from 2 to 6 hours consists in the correction of hydro-electrolytic disorders a broad-spectrum probabilistic antibiotic therapy combining Cephalosporin, Metronidazole, and Gentamycin. A blood transfusion for patients whose hemoglobin level was less than 10g/dL before the surgical procedure. The reference surgical technique is coeliocirurgical approach. It has many advantages: better post-operative respiratory tolerance, fewer parietal complications, shorter hospital stays, reduced pain and early rehabilitation [6, 15]. This method has not been used in our series. As far as we are concerned all our patients were operated by laparotomy as in the series [6, 9, 14, 15]. These patients benefited from a simple suture after excision of the banks of perforation, omentoplasty, peritoneal toilet and drainage. To this technique is added the eradication of Helicobacter pylori and the use of proton pump inhibitors. This attitude goes in the same direction as that brought by Vibert [9], Tran [10] and Panis [10]. In this study the morbidity was 5(12.9%). Parietal suppuration occupied the first place in terms of frequency among the different complications. The same observation has been made in the literature [6, 8]. Their rate varies according to the authors from 16.7% to 24% [6, 8]. This is explained by the urgency of the care which did not always guarantee rigorous asepsis, the precarious state of some patients at admission. Wall infections make the management of the operated and lengthen his hospital stay.

In our series the mortality was 5(9.3%). The authors [14] are unanimous that deaths are most often due to septic shock, and hemodynamic shock. This mortality would be the consequence of a delay in consultation, certain traditional practices, the meagre diagnostic means and especially the evaluation of electrolyte disorders. To these different criteria is added the multiple post-operative complications.

CONCLUSION

Peritonitis by gastroduodenal perforation is a common pathology in our context. The risk factors are multiple. It can cause a high mortality. Early diagnosis and treatment could improve outcomes.

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