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Original Research Article

Volvulus of the Sigmoïde Colon: Epidemiological Aspects and Management in the General Surgery Department of the Hôpital National Ignace Deen, CHU de Conaky (Guinea)

Ansoumane Conde[1*], Naby Fofana[1], Mohamed Saliou Bangoura[1], Djiba Camara[1], Marcelin Haba[1], Aminata Fofana[1], Labile Togba Soumaoro[1], Aboubacar Toure[1]

[1]Department of General Surgery, Hôpital National Ignace Deen, CHU de Conakry, Guinea

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Abstract: ***Introduction***: The aim of this study was to report our experience in the management of Volvulus of the sigmoïde colon in the general surgery department of the Ignace Deen National Hospital, CHU de Conaky, Guinea. ***Patients and Methods***: This was a retrospective study, descriptive type, covering a 5-year period (January 2018 to December 2022), concerning the records of patients admitted and operated on for Volvulus of the sigmoïde colon at the general surgery department of the Ignace Deen National Hospital, Guinea. ***Results***: We collected 72 cases representing 4% of digestive surgical emergencies (n=1800) and 25.35% of intestinal obstructions (n=284). The mean age was 49.4± 15.8 years (extremes: 18 and 74 years); we noted a male predominance (80.6%) with a sex ratio of 4.14. Merchants were predominant (34.7%). Abdominal pain was the main symptom in all patients. Ideal colostomy was performed in 84.7% of patients, followed by Hartmann colostomy (12.5%). Overall morbidity was 12.5%, with Surgical site infection was the only post-operative complication observed. Overall mortality was 2.8%. Average hospital stay was 11.5 ± 5.7 days. ***Conclusion****:* Volvulus of the sigmoïde colon is a common condition. Therapeutic methods are numerous, but ideal colectomy remains a procedure of choice in our context due to difficult socio-economic conditions.

Keywords: Sigmoid colon volvulus, general surgery, Ignace Deen.

INTRODUCTION

Sigmoid colonic volvulus (SCV) is a medico-surgical emergency. It is the third most common cause of colonic obstruction, with a high morbidity and mortality rate [1]. In Western countries, it is more common in people over 70 years of age, whereas in African countries, it is more common in young adults [2, 3]. Management depends on the patient's general condition, the terrain, the vitality of the colon, the surgeon's experience and the technical facilities available [1, 2]. Ideal colectomy and colostomy with secondary restoration of digestive continuity are the most appropriate therapeutic attitudes in our context [2, 4]. The aim of this study was to report our experience in the management of Volvulus of the sigmoïde colon in the general surgery department of the Hôpital National Ignace Deen, CHU de Conaky.

PATIENTS AND METHODS

This was a retrospective study, descriptive type, covering a period of 5 years (January 2018 to December 2022), covering the records of patients admitted and operated on for volvulus of the sigmoïde colon in the general surgery department of the Ignace Deen National Hospital. The parameters studied were: age, gender, history, clinical signs, radiological signs, operative techniques used as well as postoperative follow-up. Qualitative data were presented as frequencies or percentages, while quantitative data were evaluated as averages. Analysis was performed using EPI INFO 3.2.2 software.

RESULTS

Over a period of 5 years, we collected 72 cases of Volvulus of the sigmoïde colon, representing a frequency of 4% of acute abdominal operations and 25.35% of all acute intestinal occlusions. The mean age was 49.4 ± 15.8 years (extremes: 18 and 74 years); we noted a male predominance (80.6%) with a sex ratio of 4.14. Symptoms were dominated by an occlusive syndrome consisting of abdominal pain (100%), cessation of matter and gas (84.7%), abdominal meteorism (90.3%) and vomiting (55.6%). The

***Corresponding Author:** Ansoumane Conde
Department of General Surgery, Hôpital National Ignace Deen, CHU de Conakry, Guinea

admission time was 42 ± 26.8 hours, with extremes of 12 and 96 hours.

The Von Wahl triad of immobile and asymmetric abdominal meteorism, tympany and elastic renitence was found in 83.3% of patients. All patients underwent an unprepared abdominal X-ray (UAPR), which showed hydro-aerosal levels higher than wide in 11%, and double-leg hydro-aerosal levels (photo1) in 89%, in favor of colonic obstruction.

All patients underwent emergency surgery, with a median laparotomy approach in 100% of cases. 15.3% of patients had volvular loop necrosis (photo 2), and 84.7% had a viable volvular loop. The main surgical techniques used are shown in Table I.

Overall morbidity was 12.5%, with surgical site infection being the only postoperative complication observed. Overall mortality was 2.8%. Average hospital stay was 11.5 ± 5.7 days.

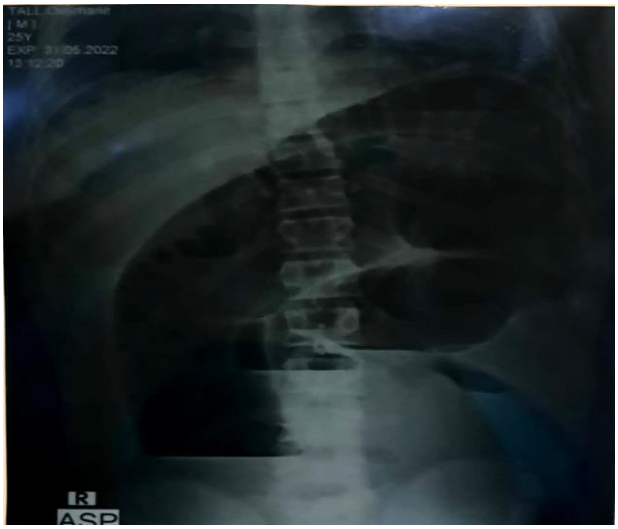

Photo 1: Front view ASP showing two liquid levels (arrows) at the foot of a dilated sigmoid loop

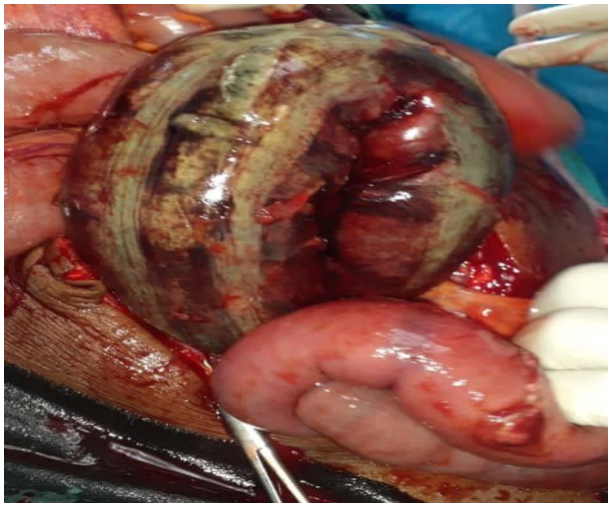

Photo 2: Intraoperative view of a swollen and necrotic sigmoid loop

Table I: Surgical procedures performed

Surgical Procedures	Workforce (n= 72)	Percentage
Ideal colectomy	61	84,7
Hartmann colostomy	09	12,5
Bouilly Volkman colostomy	02	02,8

DISCUSSION

Colon sigmoïde volvulus is one of the main causes of acute intestinal obstruction in our department, with an incidence of 25.35%. This high incidence is also reported elsewhere in Africa [5-8]. In the USA, Western Europe, Australia and Japan, on the other hand, volvulus accounts for 3 to 5% of intestinal obstructions [9]. The variation in the frequency of this pathology from one country to another could be explained by dietary factors (high-fiber diet in Africa, high-protein diet in Western countries), altitude (in

Eastern European countries), lack of a balanced diet, endemic infections (chaga disease in Latin America causing megacolon [10].

In the African literature, all studies point to a younger average age of around 50 years [5, 6, 11, 12], whereas in Western countries, the disease is more prevalent in people over 70 [1]. This difference may be linked to the youthfulness of the African population in general, and of the Guinean population in particular. The predominance of males in our study has been described in the literature [11-13]. This predominance could be explained by the fact that women have a wider pelvis and less toned abdominal muscles than men, allowing spontaneous devolvulation. Men have a dolichomesocolon, whereas women have a brachymesocolon [14].

There is still a long delay between consultation and appropriate treatment. This delay can be explained by the fact that most patients consulted peripheral facilities as soon as symptoms appeared.

All patients benefited from an ASP showing a hoop image in more than 4/5 of cases. This image was also found by Ba Pa *et al*., [12] in Senegal in 100% of cases, and by Choua O *et al*., [15] in Chad in 72.5% of cases.

All patients underwent emergency surgery, with a median laparotomy above and below the umbilicus in 100% of cases.

In our study, 15.3% had necrosis of the sigmoid loop. Hama Y *et al*., [11] in Niger and Ba Pa *et al*., [12] in Senegal reported 22.04% and 33% respectively of necrotic sigmoid colon volvulus. This situation, which is fairly common in Africa, is linked to late consultation due to low socio-economic status, self-medication and the practice of traditional medicine, which rapidly exposes the patient to the risk of irreversible ischemia progressing to necrosis [16, 17].

Ideal colectomy was the surgical procedure most frequently performed in our series. Zaré Cyprien *et al*., [6] in Burkina Faso, Adakal O *et al*., [13] in Niger, Togo A *et al*., [2] Ba Pa *et al*., [12] in Senegal reported 55.5%, 53.33%, 71.74% and 64% ideal colostomy respectively. Socio-economic and cultural factors, the risks of a second operation to re-establish colonic continuity, and the long hospital stay are all factors that lead some authors to prefer the ideal qualified one-stage surgery [16, 18]. However, authors recommend this technique provided the patient is stable and tension-free anastomosis is possible [19, 20]. On the other hand, Hama Y *et al*., in Niger reported 68,45% Hartmann colostomy in their studies.

Postoperative course was uncomplicated in the majority of cases. Surgical site infection was the only postoperative complication observed in our study. Their occurrence could be explained by contamination of surgical wounds by the stoma, the management of which poses enormous difficulties in our context. Indeed, the unavailability of ostomy pouches and the financial inaccessibility of patients to these pouches, which resulted in the use of plastic bags as ostomy pouches, added to the lack of stomatherapists, would constitute factors in the occurrence of parietal suppurations in our practice [6]. In addition to surgical site infection, Zaré C *et al*., [6] in Burkina Faso and Ba PA *et al*., [12] in Senegal have reported other postoperative complications, such as digestive fistula, postoperative peritonitis and evisceration. Peri-operative mortality depends on the duration of symptoms, the patient's general condition, the condition of the intestine and the surgical procedure performed [12, 21]. It was 7.15% in Hama Y *et al*., [11], 13.33% in Adakal O *et al*., [13]. The average length of hospital stay is in line with the literature [12, 13, 15].

CONCLUSION

Volvulus of the sigmoid colon is a frequent condition, mainly affecting adult men. Therapeutic methods are numerous, but ideal colectomy remains the procedure of choice in our context due to difficult socio-economic conditions. In an emergency, management must be rapid and effective, by a competent, multidisciplinary team.

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Conflicts of interest: The authors declare no conflict of interest.

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