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Postpartum Surgical Emergency, in the General Surgery Department of the District Hospital of the Commune IV/ Bamako

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Abstract **Original Research Article**

Introduction: Postpartum is a period of physical and psychological upheaval with the possibility of surgical complications. ***Objective:*** To analyze the epidemiological-clinical, therapeutic and prognostic profile of postpartum surgical emergencies. ***Methods:*** This was a descriptive, cross-sectional study over 8 months (from August 2022 to March 2023) including all patients admitted to the general surgery service for acute surgical abdomen in the postpartum period. ***Result:*** Seven patients were retained with an average age of 28.33 6.89years. We found 4 cases (57.1%) of post-operative peritonitis, 1cas (14.3%) of appendicular abscess and 1 case (14.3%) of strangled white line hernia. Clinical signs were dominated by abdominal pain, conjunctival pallor and fever. Anemia was confirmed in 5 (71.4%) patients and we found leukocytosis in all patients. Laparotomy associated with hysterectomy was performed in 2cas, laparotomy avively of the banks and uterine suture in 2 cases, washing of the peritoneal cavity associated with abdominal drainage in 1 case, hernia cure in 1cas, an appendectomy in 1cas and a sigmoidectomy in 1cas; abdominal drainage was performed in all our patients. ***Conclusion:*** The occurrence of an abdominal surgical emergency in postpartum is serious and may involve the obstetric and vital prognosis of the patient. The involvement of all actors (surgeon, obstetrician and anesthesiologist resuscitator) in the management, remains essential to secure the periartum period.

Keywords: Surgical emergencies, postpartum, acute abdomen.

INTRODUCTION

The postpartum period (puerperality or sequence of childbirth) extends from the end of childbirth until the return of childbirth. It is a period of new upheavals first physical with the sudden loss of physiological and anatomical landmarks related to pregnancy; but it is also a period of psychic and family changes. It is therefore a period of risk, sometimes of complications that deserves follow-up and special attention [1]. Surgical abdominal emergencies that occur during this period are assumed to be related to pregnancy or childbirth; however, other causes must also be considered [2]. Diagnosis of an acute surgical abdomen in postpartum remains a dilemma for both obstetricians and surgeons as the clinical features are often atypical and there is often an overlap of symptoms with other urogenital infections more common in the post-partum periodimmediate partum such as puerperal endometritis, urinary tract infection, pyelonephritis, pneumonia etc. [2]. The rigidity of the right muscles of the abdomen can be missed during puerperality, this phenomenon could be explained by the decrease in muscle tone, decreased white blood cell counts and increased erythrocyte sedimentation rate due to physiological change, making diagnosis even more difficult [3]. Many women continue to die or have health problems during the postpartum period [4]. According to the Demographic Health Survey of Mali (EDSMVI), the maternal mortality rate is estimated at 325 maternal deaths per 100,000 births) [5], this rate remains high in relation to the 3.1 sustainable development goal of reducing the global maternal mortality rate to below 70 per 100,000 live births [6].

Given the growing evidence of severe maternal morbidity and mortality and the critical role that access to timely quality care can play in improving outcomes [4] and also we are starting to register more and more parturients suffering from acute abdomen and mainly post-caesarean section; we initiated this study in order to improve the follow-up and management of these abdominal emergencies in the postpartum period.

The main objective of the study was to study the epidemiological, clinical, therapeutic and prognostic profile of postpartum surgical emergencies in the general surgery department of the district hospital of the commune IV of Bamako.

METHODOLOGY

It was a descriptive, cross-sectional eight-month study that ran from August 2022 to March 2023. It covered all patients admitted to the general surgery department of the district hospital of the commune IV of Bamako for acute surgical abdomen during the postpartum period. Women operated outside the postpartum period or parturients operated for other causes during the study period were excluded from the study. To conduct this study, we used the patient file, the operative report, the hospitalization register to collect socio-demographic, clinical, paraclinical, therapeutic and post-operative follow-up data. These data were collected and analyzed on Epi info version 7. The statistical comparison test uses Chi2 with a significance threshold $p < 0.05$.

RESULTS

During the study period, the hospital performed 5080 deliveries by qualified personnel, including 1084 deliveries by caesarean section. During the same period, 87 abdominal emergencies including 8 postpartum women were operated by the general surgery department. Surgical emergencies in the postpartum period accounted for 0.15% of deliveries by qualified personnel, 0.74% of caesarean sections, 9.2% of abdominal surgical emergencies. The average age of parturients was 28.33years 7.55 years with extremes of 18 and 37 years. Multiparity was found in 3 patients or 37.5%, 25% (2) of patients were paucipares, 25% (2) of patients were large multipares and one patient or 12.5% was primiparous. Among the 8 parturients, 6 had given birth via cesarean section or 75% of the sample **(Figures 1 and 2)** and two patients gave birth via the vaginal route.

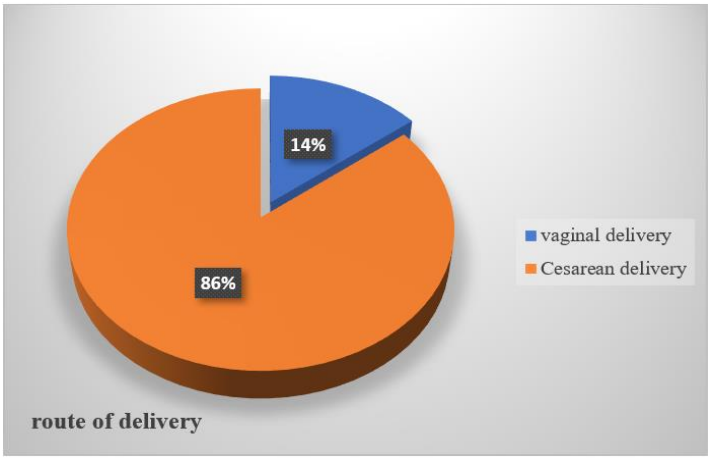

Figure 1: Distribution of patients by delivery route

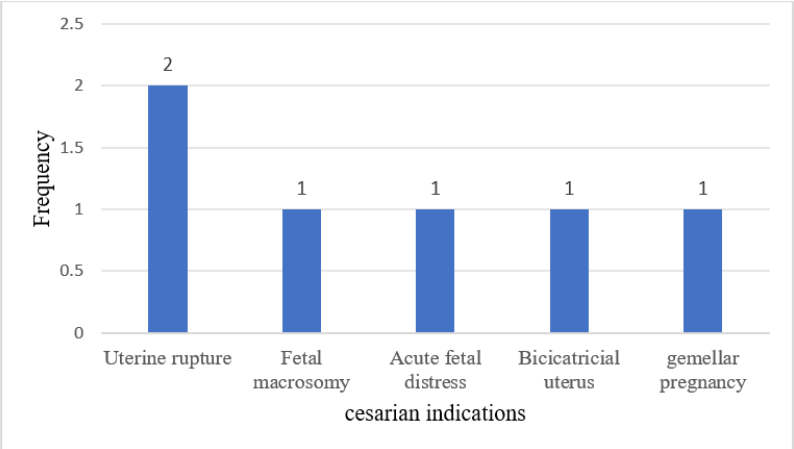

Figure 2: Distribution of cesarean patients according to cesarean indications

The indication of cesarean section for uterine rupture was the most frequent with 2 patients or 33.3% of cases.

The reason for admitting patients in emergency in the general surgery department was essentially dominated by the abdominal pain that was present in all our patients. This pain was accompanied by conjunctival pallor in 85.7%, fever in 71.42% of abdominal contracture in 54.1%, tachycardia in 57.1%, hypotension in 42.8%, headache in 42.8%, cessation of matter and gas in 28,5% and abdominal distension in 28.5%.

The diagnostic assessment in emergency was composed of blood count, abdominal ultrasound and rhesus groupage that were performed in all our patients, the abdomen without preparation (ASP) and ionogram were performed in 2 (25%) patients and creatinine in 3 (37.5%) patients.

The emergency blood count allowed to objectify moderate anemia with a hemoglobin level between [8-10g/ dl] in 4 (57%) patients severe anemia with a hemoglobin level at 5.6g/ dl in a patient.

After clinical and paraclinical examinations, the diagnosis of an acute surgical abdomen in the postpartum period was retained in all our patients. In intraoperative, the diagnosis retained in patients is summarized in **Table 1.**

Table 1: Distribution of patients according to the per-operative diagnosis

Per-operative diagnosis	Effective	Percentage
Peritonitis post-caesarean section by release of uterine suture threads	4	50
Post-cesarean peritonitis by ascending route	1	12,5
Appendicular abscess	1	12,5
Hernia of the strangled white line	1	12,5
Volvulus occlusion of the sigmoid colon	1	12,5
Total	**8**	**100**

Post-cesarean peritonitis was the most frequent diagnosis with 62.5% of cases among which 4cas or 80% were related to a release of uterine suture threads.

The average support time was 9.33days 4.12 days with extremes of 15 days and 2 days.

The treatment consisted in a median laparotomy sus and under umbilical in 6 patients or 75% of cases associated with a washing and drainage of the peritoneal cavity in all our patients or 100% of cases. The surgical technique performed is summarized in **Table 2.**

Table 2: **Breakdown by surgical procedure**

Surgical Technique	Headcount	Percentage
Hysterectomy + washing + drainage	2	25
restoring the banks and uterine suture + washing + drainage	2	25
Washing + drainage	1	12,5
Devolution of the sigmoid colon + washing + drainage	1	12,5
Appendectomy + drainage	1	12,5
Ligation and resection of necrotic epiploon + parietal cure in separate points	1	12,5
Total	8	100

We performed a hysterectomy associated with the washing and drainage of the abdominal cavity in 2 patients, this represented 40% of peritonitis post cesarean section and 50% of peritonitis by releasing uterine sutures.

The postoperative course was marked by the occurrence of parietal suppuration in 2 patients, anemia in 2 patients and death in a septic shock table in a patient.

DISCUSSIONS

Frequency and Authors

The frequency of postpartum abdominal surgical emergencies is variously assessed according to the studies. Our frequency of 0.15% is lower than that of; Yannick N in Cameroon [7], Denis R in Rwanda [8] and Adisso S in Benin [9] with p <0, 5%.

Etiology and Authors

Women who give birth by caesarean section have a 5 to 20 times higher risk of contracting an infection than women who give birth by vaginal route [4]; in our study, 6 (86%) patients were postcaesarean cases among which 4 (57.14%) case of peritonitis by release of uterine sutures. The incidence of postcaesarean complications varies from 7 to 25% depending on the authors and can be very variable; from infectious complication to type of wall infection, endometritis and urinary tract infection, bleeding, thrombophlebitis of the lower limbs and often anaesthetic complications and post-operative disembodiment are found [10].

Processing Time and Authors

The rigidity of the right muscles of the abdomen can be missed during puerperality, this phenomenon

could be explained by the decrease in muscle tone, decreased white blood cell counts and increased erythrocyte sedimentation rate due to physiological change, making diagnosis even more difficult [3].

The diagnosis of an acute abdomen is difficult in the postpartum period due to a physiological change. This change will lead to a decrease in muscle tone, white blood cell count and the release of inflammatory mediators during childbirth. These can mask the signs of peritonitis and make it even more difficult to diagnose acute abdomen [2,3,11]. In addition, improving the frequency and quality of postpartum follow-up during the first 42 days can improve maternal outcomes while reducing maternal mortality and morbidity severity through early detection of early warning signs during this period [4]. Difficulty in diagnosis and delay in management worsen the maternal prognosis [4]. In our study, the average treatment time was 9.33days 4.12 days.

Mortality and Authors

Overall maternal mortality after cesarean section and after vaginal delivery is 0.44 and 0.04 live births, respectively [10]. Our postoperative mortality rate of 14.29% is statically different from that of Saad B in Morocco which was 0.16% with a $p<0.05$. This difference could be related to the large sample size of the Saad study (22,048 deliveries including 2,417 by caesarean section) and specificities of the Saad sample, which consisted solely of maternal complications of caesarean section, the average period of management and the quality of care per and postpartum.

CONCLUSION

The occurrence of an abdominal surgical emergency in the postpartum period is serious and may involve the obstetric and vital prognosis of the patient. Also, if the increase in the rate of cesarean sections contributed to the improvement of the maternal-fetal prognosis, the surgical act itself is not devoid of complications. The involvement of all actors (surgeon, obstetrician and anesthesiologist resuscitator) in the management, remains essential to secure the peri-partum period.

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