

Research Article

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Neonatal Abdominal Surgical Emergencies: Therapeutic and Evolutionary Aspects in the Pediatric Surgery Department of the Hospital in Mali

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Abstract

Neonatal abdominal surgical emergencies include acquired or congenital conditions of the digestive tract of the newborn, which manifest themselves from birth to the end of the first month of life (0 to 28 days). We carried out a retro-prospective and descriptive study over three (3) years, from June 1, 2018 to May 31, 2021, the main purpose of which is to study the therapeutic and evolutionary aspects of neonatal abdominal surgical emergencies in the pediatric surgery department of the Mali Hospital. We collected 31 patients. The average time to surgical management was 48 hours with extremes of. Surgical treatment was performed in 87.1% of patients. We recorded 54.8% of deaths. Neonatal abdominal surgical emergencies constitute an absolute diagnostic and therapeutic emergency characterized by a particularly high mortality in our practice context. The prognosis could improve with an efficient technical platform and qualified personnel.

Keywords: Emergency; Abdomen; Neonatal; Surgery; Evolution.

Introduction

Neonatal abdominal surgical emergencies include acquired or congenital conditions of the digestive tract of newborns, which manifest themselves from birth to the end of the first month of life (0 to 28 days). These are abnormalities of structures or functions. It is the most common surgical emergency in newborns [1,2]. Some emergencies are obvious from birth, making diagnosis easy.

However, others are revealed later, making the diagnostic process requiring more in-depth conditioning and assessments. The antenatal diagnosis has completely changed the behavior to adopt [2]. In developed countries, screening and early management of malformations in newborns have markedly improved their prognosis [3]. In our countries, mortality is still high because of the delay in diagnosis, and the low socio-economic level of our

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populations [4]. They are responsible for 20 to 30% of the causes of infant mortality in the countries of the European community [5,6]. In Mali in 2003 Barry. A et al found a mortality rate of 50% [7]. The aim of this work is to study the therapeutic and evolutionary aspects of neonatal abdominal surgical emergencies in the pediatric surgery department of the Mali hospital.

Materials and methods

This was a retro-prospective and descriptive study that took place over three years from June 1, 2018 to May 31, 2021. This study was carried out in the pediatric surgery department of Mali hospital. All neonates aged 1 to 28 days hospitalized for emergency neonatal abdominal surgery during the study period were included. The parameters studied are: surgical treatment, outcome of newborns, causes of death and length of hospitalization. Data were entered and analyzed using SPSS software version 25.0, Epic Info TM 7.lnk.

Results

Anorectic malformations represented 51.7% followed by laparoschisis 25.8% as recorded in (Table 1).

Table 1: Distribution of patients according to the pathologies encountered.

Pathology	Workforce	Percentage
TUE	16	51.7%
Laparoschisis	8	25.8%
Omphalocele	3	9.7%
Hirschsprung's disease	1	3.2%
Bad intestinal rotation	1	3.2%
Hail atresia	1	3.2%
Duodenal atresia	1	3.2%
Total	31	100%



Figure 1: (A) Newborn 1 day old, anorectal malformation. (B) Newborn 1 day life, laparoschisis.

The average treatment time was 48 hours with extremes of 1 and 7 days. In our series, 44.5% were operated on within the first 24 hours of their admissions, 33.3% were operated on within 24-48 hours of their admission and 22.2% were operated on more than 72 hours after their admissions. Surgical treatment was performed in 87.1%. All anorectal malformations benefited from three-step surgery, namely colostomy, anoplasty and restoration of digestive continuity. Gastroschisis, on the other hand, benefited from single-stage surgery. The omphaloceles were treated

in two stages: tanning and then the disemboweling treatment. Hirschsprung's disease benefited from a colostomy, intestinal malrotation, duodenal atresia and small bowel atresia were operated on at one time. The complications recorded were respiratory distress 76.5% followed by infection 17.6% and finally hemorrhage 5.9%. The mortality rate was 54.8%. Among the deaths are all gastroschisis, 5 anorectal malformations, 1 small bowel atresia, 1 omphalocele, Hirschsprung's disease and intestinal malrotation. The average hospital stay was 2.39 days with extremes of 1 and 45 days. At 15 months of follow-up, the evolution is marked in 3 of our patients with anorectal malformations by an anal bud.

Discussions

The digestive surgical pathologies of the newborn have a character of surgical emergency. The need for surgery as soon as possible is therefore essential. In our study, 15 cases out of 31, or 55.5%, were operated on within more than 48 hours of their admission. The reasons for this delay in the surgical intervention can be explained by the clinical state of the patients very altered at their admission requiring intensive preoperative resuscitation, the delay of an accurate diagnosis, the poverty of the parents who must assume all the costs medical and treatment costs. These same observations were made by Randriamizao in Madagascar [8] who finds in his series, an average time between admission and intervention of 44.6 ± 12.3 hours. In addition, they advanced the same reasons for the delay in surgical treatment. The delay in surgical treatment and the occurrence of complications prolonged the length of stay for some patients. The average length of stay was 2.39 days with extremes of 1 and 45 days, 13 cases out of 31 so 41.9% progressed favorably towards healing against 18/31 (58%) of newborns who presented at least one complication either pre or postoperatively. Respiratory distress was the most common complication with 10 cases out of 18, or 55.5% of cases. All these respiratory distresses occurred in the immediate postoperative period, which made us suspect a problem of postoperative resuscitation. Sepsis in 3 cases out of 18, i.e. 16.6% of cases. Bleeding was encountered in 5.6% of cases (1/18) and was digestive. These results corroborate with those found by Barry. A al in Mali [7]. The fatality rate of neonatal digestive surgical emergencies in our series is 54.8%. This rate is close to that of African countries, which varies between 50 and 70%, and much higher than that of developed countries, where it is 4 to 7% [9,10]. The delay in the consultation by the ignorance of these pathologies, the absence of neonatal resuscitation service, the non-respect of the prenatal follow-up schedule, the absence of the antenatal screening were the factors of poor prognosis.

Conclusion

Neonatal abdominal surgical emergencies constitute an absolute diagnostic and therapeutic emergency characterized by a particularly high mortality. The prognosis could improve with an efficient technical platform and qualified personnel.

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