

The challenges of severe laparoschisis management in rural health facilities: a case from Bominenge health district facility

Abstract

The management of severe laparoschisis is a big challenge in health facilities with limited technical capabilities. Unfortunately up to date, there is little data/research on this concern in Congolese medical practice and the etiology is still unclear. The case we report was born from vaginal delivery at the health center and then was referred to the referral hospital for adequate care, as the management was not appropriate, it was later aggravated by symptoms of sepsis and resulted in death. An appropriate management of such a case requires a total and frank collaboration between the health care's providers and patients relatives. It also raises a need for further research toward appropriate management, not to mention preventive interventions.

Subject areas: maternal and neonatal research, pediatrics

Keywords: laparoschisis, challenges, case report, management, technical capacities, preventive intervention, survival, defect

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Introduction

Laproschisis¹ is 'a congenital malformation characterized by the absence of the abdominal covering sac and/or sub-cutaneous and cutaneous tissues, exposing viscera to the external environment'. Previous research¹⁻⁷ reported a moderate prevalence of 1 per 6,000 births in Europe and 4.4 per 10,000 births in Canada, While the disease has not been extensively studied in Africa, results from facility-based studies⁸⁻¹⁰ suggest that laparoschisis represents between 5-12% of total congenital malformations diagnosed in West and Northern Africa. The authors' article¹ also reported that it occurs around teen weeks of gestational age and results in bowel protruding without covering sac, adding that antenatal diagnosis is rare due to the lack of antenatal optimal investigation, mainly ultrasound in rural health care facilities.

The etiology of the malformation is remains unclear, but it would originate from 'a defect of the umbilical cord and ring'. The same authors¹ referred to age (less than 20 years old) and maternal exposure to cigarette smoke as potential risk factors. Moreover¹, genetic mutations and maternal genitourinary tract infections have been associated with an increased risk, but the exact pathological mechanisms remain elusive. In its clinical forms, the laparoschisis presents a differential diagnosis with omphalocele in some characteristics.¹¹ In addition to the malformation itself,¹ antenatal and postnatal diagnosis may cause or increase stress among the bearing mothers which, alone or along with other stressors may result in maternal depression. The disease is

associated with a very high case fatality rate in African settings with at least two studies reporting that the disease was lethal in 100% of cases in Cote d'Ivoire¹⁰ and Mali.⁹

Case report: Severe laparoschisis

Hereby, we report a case of severe laparoschisis. The baby male was born on April 08, 2021, at 04:30 AM from a 25-year-old pregnant participant, gravida 3, parity 2, and no dead child history. However, the mother was previously hospitalized for malaria and sexual transmitted diseases. Regarding the reported case, she tried many times to abort this pregnancy by using traditional medicine without success. She was admitted for delivery with a gestational age of 40 weeks and 6 days. During the labor assessment at the health center, the fetal heart rate 134 beats/minute. The baby's birthweight was 3400 grams with an Apgar score of 6/10 in the first minute and 8/10 in the fifth minute.

At birth the baby presented abdominal wall abnormalities with open-tissue without skin and sub-cutaneous tissue. It was a severe laparoschisis. On the following day, the newborn was referred to Gemena referral Hospital for adequate care. On the same day one, the baby health conditions were deteriorated with fever, not well breastfeeding with symptoms of acute respiratory distress, He was treated for possibility of severe bacterial infection with intravenous gentamycin and ceftriaxone and a daily healing chlorine solution. Unfortunately, the baby passed away on April 11, 2021-day three of the admission, at Gemena referral hospital.



Figure 1 A case report of the newborn with severe laparoschisis.

Discussion

Severe Laparoschisis management is really a big challenge in DRC health care facilities mostly with limited technical capabilities. Unfortunately up to date, there is little data/research on this concern in Congolese medical practice and the etiology is still unclear. It is hypothesised to be more prevalent among mothers with unsafe and risk behavior/attitudes, and habits or/and whose life is influenced by practices and beliefs. In the actual medical practice, laparoschisis is a surgical emergency where facilities are endowed with optimal infrastructures. But primary abdominal closure² is not always possible and different techniques of delayed/adaptive management may be resorted to, when technical capacities are not optimal.

In the same article,² the prognosis is linked to the severity and the functional quality of the intestinal loops. In fact it claimed to be excellent in more than 90% of cases in Europe.¹ But based on the clinical experience, it is very poor in conditions with low technical platforms.

And due to limited management resources mainly in rural health areas, the malformation often leads to early complicated symptoms and results often in death, not to cite the maternal mental health implication. This questions the need of antenatal exploration for early diagnostic and surveillance. But the critical decision should be a consensual decision between the mother/his family and health workers toward or not to the fetal survival and postnatal management, the medical termination of the pregnancy being as an option.

Conclusion

Laparoschisis management still remains a real concern in DRC pediatric practice. An appropriate management of such cases requires a total and frank collaboration between the health care providers and patients relatives. Further research on the pathology would shed light on the magnitude, association and causation mainly DRC low income environment. Subsequently, this would contribute in improving cases protocol management and preventive interventions.

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Conflicts of interests

The author declares no conflict of interest regarding the publication of this paper.

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