



Research Article

JMR 2020; 6(3): 79-82
May- June
ISSN: 2395-7565
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www.medicinarticle.com
Received: 16-04-2020
Accepted: 12-06-2020

Prevalence of anorectal malformations in the city of Butembo, East of the Democratic Republic of Congo

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Abstract

Introduction: Anorectal malformations represent a very wide range of malformations ranging from the simple defect of resorption of the anal membrane to anorectal agenesis with fistula in the urinary or genital tract and sacral anomaly. The main objective of this study is to determine the prevalence of anorectal malformations in the town of Butembo and specifically to determine the hospital frequency of anorectal malformations, the most frequent types of anorectal malformations and the other malformations associated with it. **Materials and methods:** This was a retrospective study. This study extended from January 1, 2008 to December 31, 2018 in four health facilities in the city of Butembo. **Results:** During our study period on 4000 patients who were consulted and supported in the surgery and neonatology service in 4 health facilities in Butembo, the hospital frequency of anorectal malformations is 1.8% with a predominance found in newborns with 59.1%, the male sex was noted in our series with a frequency of 54.9%. MATANDA hospital has a high rate of anorectal malformations with a frequency of 66.2%, the forms with fistulas represented 31%, the low form represented 66.2%. **Conclusion:** Anorectal malformations are present in our environment, the establishment of antenatal obstetric ultrasound would allow early detection and early management according to the schedule and thus reduce mortality.

Keywords: Anorectal malformations, Retrospective study, Democratic Republic of Congo.

INTRODUCTION

In all societies, the birth of a child is a happy event, but the discovery of a malformation in this child is always experienced as a drama. [1]

Anorectal malformations represent a very wide range of malformations ranging from simple defect in resorption of the anal membrane to anorectal agenesis with fistula in the urinary or genital tract and sacral anomaly. [2]

Worldwide, anorectal malformations represent according to the literature 1 case in 5000 births, 56% of which are boys, their incidence has not changed with the prenatal diagnosis. But this is probably underestimated since some forms of anorectal malformations go unnoticed or are not listed. [4]

In Japan in 2000, there were 86% [3]

In developing countries, on the other hand, and mainly in Africa, the management of anorectal malformations, which is often carried out in emergency situations, is still a source of many problems. [4]

In Africa the hospital frequencies of anorectal malformations vary between 15 cases and 35 cases per year [5].

In the town of Butembo, no research on anorectal malformations has been carried out. In view of the epidemiological data on anorectal malformations in the world in general and in different countries in particular, it must be said that the question is a real one public health problem and which requires a study locally.

The main objective of this study was to determine the prevalence of anorectal malformations in the town of Butembo and specifically to determine the hospital frequency of anorectal malformations, the most frequent types of anorectal malformations and the other malformations associated with it.

MATERIAL AND METHODS

Our study was carried out in the Democratic Republic of Congo, in the province of Nord-Kivu precisely in the city of Butembo, including the 4 health structures: General Reference Hospital of KATWA, MATANDA Hospital, CLINIQUES UNIVERSITAIRES DU GRABEN and General Reference Hospital of KITATUMBA.

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Our study population consisted of 4000 children who consulted in the neonatology and surgical management department in the hospitals mentioned above.

The sample is exhaustive, consisting of 71 cases of anorectal malformations in children whose average age is 159 days, which is between the first day of life and 2 years of age.

This is a retrospective study. This study ran from January 1, 2008 to December 31, 2018.

Were included in this study all children diagnosed with anorectal malformations whose medical records were completed.

Were excluded from our study, all patients over the age of 2 years and whose records were not found, and who was not admitted to the surgery and neonatology department and who did not present with ano-rectals during our study period.

Data collection was carried out using a pre-established collection form, the registers and hospitalization cards in the surgery and neonatology department served as collection support.

The data processing was carried out using Microsoft office Excel 2007 software. Ethical considerations were respected, anonymity was our procedure and the study was not harmful.

RESULTS

1. Prevalence of anorectal malformations

During our period of study on 4000 patients having been consulted and supported in the surgery and neonatology service in 4 health facilities of Butembo above mentioned, the hospital frequency of anorectal malformations in our service is 7 per year on average (71 cases in 10 years) with a prevalence of 1.8%.2.

2. ARM and Socio-demographic malformation

The table below presents the socio-demographic characteristics of ARM.

Table 1: Distribution of anorectal malformations according to socio-demographic variables

Variables	Modalities	Effective	Percentage
Age	New born : 0 – 28 days	42	59.1
	Infant : 1 month – 2 year	29	40.9
	Total	71	100
Gender	Male	39	54.9
	Female	32	45.1
Origin	Total	71	100
	Butembo Health Zone	9	12.7
	Katwa Health Zone	24	33.8
	Outside zones	38	53.5

3. Frequency of anorectal malformations by health facility

The table below shows the frequency of ARM in different health facilities.

Table 2: Frequency of anorectal malformations by structures

Structure	Effective	Percentage
MATANDA	47	66.2
Cliniques Universitaires du Graben	10	14.1
KITATUMBA	8	11.3
KATWA	6	8.4
TOTAL	71	100

4. Classification of anorectal malformations

The table below presents the frequency of ARM according to the clinical aspect.

Table 3: Distribution of ARM according to clinical appearance

Clinical aspect	Effective	Percentage
Anal port absent without fistula	40	56.3
Anal port missing with fistula	22	31
Narrowing of the anal opening	9	12.7
Total	71	100

5. Pathology type

The table below presents the prevalence of MAR by type of pathology.

Table 4: Distribution of MAR by type of pathology

Anatomopathological type	Effective	Percentage
Low form	47	66.2
Tall form	17	23.9
Intermediate form	7	9.9
Total	71	100

6. Complications of ARM

The table below shows the frequency of ARM according to the types of fistulas.

Table 5: Distribution of ARM by type of fistula

Type of fistula	Effective	Percentage
Recto-vaginal	12	55
Recto-perineal	6	27
Recto-urethral	2	9
Ano-vestibular	2	9
Total	22	100

7. Associated malformations

The table below shows the various malformations associated with ARM.

Table 6: Distribution of associated malformations

Associated malformations	Effective	Percentage
Cardiac malformation	5	35.7
Neural tube defect	2	14.3
Pelvic limb malformation	2	14.3
Scrotal swelling	1	7.1
Urogenital malformation (vaginal imperforation)	1	7.1
Cleft lip-palate	1	7.1
Chromosome disease (trisomy 21)	1	7.1
Polydactyly	1	7.1
Total	14	100

DISCUSSION

During our retrospective study on the prevalence of anorectal malformations precisely in the 4 health facilities mentioned above, 71 cases of anorectal malformations out of 4000 patients who consulted the neonatology department and were taken into surgery, were recorded either 7 cases per year with a frequency of 1.8%, during our study in the town of Butembo.

This frequency found during our investigations, approximates the world frequency of anorectal malformations which is estimated at around 1 case per 5000 births. Our annual data are far from those found in Africa 15 to 35 cases per year [1].

Our data is lower than that found by MUNYANTWARI AE et al. In their studies conducted in 2015 in North Kivu at the Goma provincial hospital on congenital malformations gave a frequency of 16.2%. [6] This is justified by the study population, because we considered all the children who had been consulted and operated on in the surgery and neonatology department.

It appears from this table I that all the age groups are interested in the anorectal malformation with a predominance found in newborns with 59.1% followed by infants with 40.9%. Our average age being 159 days for the age from the first day of life to 2 years. It is higher than that of CHABAL J. and CISSE B. who found the average age of 2 days in a study conducted in England. [7] This high average age could be due in our context by a lack of screening for the malformation by health personnel from delivery.

The predominance of men was noted in our series with a frequency of 54.9% with a sex ratio of 1.22. This proportion is similar to the data found in the literature being 2.1 for CHABAL J. and CISSE B. in Senegal in 2000 [7].

In our series, the majority of patients with ARM came from outside the city, ie 53.5%. MATANDA hospital has a high rate of ARM with a frequency of 66.2% followed by University Clinics of Graben with 14.1%. This corroborates the study of ALIOU DOUMBIA conducted at the CHU Gabriel Touré in Bamako from 2008 to 2009 which found 72.5% [8].

This rate is higher due to the fact that MATANDA hospital is in the center of the city and it is too busy compared to other structures. Our results agree with those of HERMAN BIENOU LANOU in his study carried out in Burkina-Faso in 2002, focusing on anorectal malformations at national hospitals Charles de Gaulle about 45 cases found 66.7% of patients with ARM coming from outside the region. This high number is justified by the lack of care centers for ARM and pediatric surgeons in peripheral areas.

From the analysis in Table V, 56.3% of our patients had the absent anal port without fistula followed by 31% with the absent anal port with fistula. Our data approximate those found by CHABAL J. and CISSE B. in their studies done in Dakar (Senegal) in 2009, they had recorded 48.4% of patients with the anal orifice absent without fistula and 42.2% of the anal orifice absent with fistula [7].

From Table VII, 66.2% of our patients had the low form followed by 23.9% of patients with the high form. GAIDET Aurélien is my envy in his study conducted at Grenoble hospital in France from 2005 to 2015, he found a frequency of 67% low ARM and 21% high ARM [9].

In our series, forms with fistulas represented 31% of cases in which rectovaginal fistulas predominate with 55% followed by recto-perineal fistula with 27%. Our data agree with those found by MAOUAFOTAMBO F., MOH EN DIATH AG, in their studies done in Ivory Coast in 2001 on anorectal malformations in the pediatric surgery department of CH de YOPOUGON who had found 35.70% of rectovaginal fistula and 21.40% for recto-perineal fistulas [10].

It appears from Table VI that 35.7% of our patients with anorectal malformations had cardiac malformations as associates followed by 14.3% of patients with neural tube and pelvic limb malformations. This rate is not far lower than that found in CHOS data in a study dealing with anorectal malformations "one hundred three consecutive patients with anorectals malformations and their associated anomalies" found 49% of cardiac malformations and 19% of malformations of the neural tube [11].

CONCLUSION

Anorectal malformations are present in our environment. This requires careful examination of the child at birth in order to avoid delayed diagnosis at the neonatal occlusion stage. The treatment must be early, in an expert center to ensure excellent quality surgery. However, surgical correction is not enough, and these patients need long-term support, adapted to age and activities to improve their quality of life.

Conflict of interest

There is no conflict of interest.

Acknowledgments

The author greatly thanks the Resident in General Surgery at the Faculty of Health Sciences of Cotonou, Dr. Muhindo Valimungighe Moise, Senior Lecture at the Faculty of Medicine of the Catholic University of Graben and the Student at the University Catholic from Graben, Asifiwe Mashauri for their involvement in data collection and revision of the manuscript.

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