Research Square

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Operated genital fistulas in Yaoundé, Cameroon: clinical characteristics and surgical outcomes

Pierre Marie TEBEU
Université de Yaoundé I
Joseph Ader Chouaboua
Université de Yaoundé I
Dimitri Loann Tebeu
loanntebeu@gmail.com
Centre Inter-États d'Enseignement Supérieur en Santé Publique d'Afrique Centrale
Jesse Saint Saba Antaon
Centre Inter-États d'Enseignement Supérieur en Santé Publique d'Afrique Centrale
Antoinette Ngo Ngue
University Teaching Hospital of Yaounde
Charles-Henry Rochat
Geneva Foundation for Medical Education and Research

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Abstract

Introduction.

Female genital fistula remains a major cause of incontinence, stigma and disability in sub-Saharan Africa. This study aimed to describe the epidemiological, clinical and therapeutic characteristics of women operated on for genital fistula in two surgical centres in Yaoundé, Cameroon.

Material and methods.

We conducted a descriptive cross-sectional study with retrospective and prospective data collection at the Yaoundé University Teaching Hospital and the Essos Medical-Surgical Centre. Women operated on for genital fistula between 2019 and 2020, living in Cameroon and consenting to participate, were included. Data were analysed using Epi Info 7.2.2.6 and reported as counts, percentages, medians and quartiles.

Results.

Fifty-four women were included ; the median age was 33 years (28–40). Fistula surgery represented 5.64% of operating-room activity at the Yaoundé University Teaching Hospital. Half of the women had no income-generating activity. Median parity was 2 (1–5). Obstetric aetiology was predominant (42/54 ; 77.78%). The median duration of living with fistula was 2 years (1–8). Rectovaginal fistulas accounted for 30/54 cases and vesicovaginal fistulas for 24/54 cases. Fistula closure was achieved in 49/54 women (90.74%), and 43/49 closures were continent (87.76%). No woman had received a psychological assessment.

Conclusion.

Surgical outcomes were satisfactory, but psychosocial and economic support remained insufficient. Integrated fistula care should combine timely surgery, prevention and structured reintegration support.

Introduction

Female genital fistulas correspond to an abnormal communication between two pelvic organs, most often between the bladder and the vagina or between the rectum and the vagina [1]. They cause urinary and/or fecal incontinence, recurrent infections, impaired sexuality, social stigmatization, and catastrophic expenses for women and their families. In resource-limited countries, obstetric etiology remains dominant, related to prolonged labor, delayed access to emergency obstetric care, and insufficient specialized surgical resources [2, 3].

In Cameroon, genital fistulas remain insufficiently documented despite repair campaigns and awareness-raising initiatives. Hospital data can help describe the profile of operated women, surgical outcomes, and unmet needs, particularly regarding psychosocial reintegration. The objective of this

study was to describe the epidemiological, clinical, and therapeutic characteristics of women operated for genital fistula in two surgical centers in Yaoundé between 2019 and 2020.

Materials and Methods

Study type, setting, and period. This was a descriptive cross-sectional study, with retrospective and prospective data collection. It was conducted in two surgical facilities in Yaoundé: the Yaoundé University Teaching Hospital and the Essos Medical and Surgical Center. The collection period extended from July 1, 2019 to March 11, 2021, for women operated between 2019 and 2020.

Study population. Eligible participants were women operated for genital fistula, residing in Cameroon, who had given their consent to participate in the study. A minimum interval of six months after surgery was sought in order to assess the functional outcome and psychosocial reintegration. Women whose contact details were unavailable or who declined to participate were excluded. Recruitment was consecutive and non-probabilistic.

Variables and data collection. The variables studied included the proportion of fistula surgery among the surgical activities of the Yaoundé University Teaching Hospital, sociodemographic characteristics, gyneco-obstetric history, presumed etiology, type of fistula, condition of the peri-fistular tissue, number of prior surgeries, surgical outcome, and indicators of psychosocial and economic reintegration. Data were obtained from operative registers, medical records, postoperative consultations, and semi-structured interviews.

Statistical analysis. Data were entered and analyzed using Epi Info version 7.2.2.6. Quantitative variables were summarized using medians and quartiles, with ranges where relevant. Qualitative variables were presented as frequencies and percentages. No comparative test was performed given the descriptive design and the limited size of some subgroups.

Results

At the Yaoundé University Teaching Hospital, 23 procedures for genital fistula were recorded among 408 surgical procedures, representing a proportion of 5.64% (Table 1). In total, 54 women operated in the two centers were included.

The median age was 33 years (28; 40), ranging from 21 to 66 years. Women aged 21 to 40 years accounted for 41/54 participants. Secondary education was the most common education level (28/54), while 27/54 women had no income-generating activity (Table 2).

Median parity was 2 (1; 5), ranging from 0 to 11. Obstetric etiology was the most common (42/54), followed by iatrogenic fistulas (10/54). Median duration of living with the fistula was 2 years (1; 8), ranging from 1 to 22 years. Rectovaginal fistulas accounted for 30/54 cases and vesicovaginal fistulas

for 24/54 cases. Peri-fistular tissue was judged pliable in 34/54 women. Median number of prior surgeries was 0 (0; 2), ranging from 0 to 9 (Table 3).

The fistula was closed in 49/54 women. Among these closures, 43/49 were associated with continence, while 6/49 were associated with residual incontinence. Closure failures concerned 5/54 women, all in the vesicovaginal fistula group (Table 4).

Regarding psychosocial aspects, 3/54 women reported having had suicidal ideation at some point while living with the fistula, and 7/54 reported living in isolation. No woman had received specific financial support for an income-generating activity or a formalized psychological evaluation (Table 5).

Discussion

This hospital-based series describes relatively young women, with a majority of participants under 41 years of age and low median parity. This profile confirms that genital fistula affects women during their reproductive and economically active years. The proportion of women without an income-generating activity also highlights the social vulnerability accompanying the condition, which may delay care-seeking.

Obstetric etiology remained predominant, accounting for more than three-quarters of cases. This finding confirms the central role of obstetric prevention, including rapid access to emergency obstetric and neonatal care, labor monitoring, early referral of complications, and continuous training of care teams. The presence of iatrogenic fistulas, mainly among vesicovaginal fistulas, nonetheless underscores that prevention must also address the safety of gynecological and obstetric surgical procedures.

The surgical outcome was generally favorable, with closure in 49/54 cases and continence in 43/49 closures. These results are close to the operational target classically sought in fistula programs, based on a high proportion of closures followed by continence [3]. The quality of the peri-fistular tissue and the low number of prior surgeries in many participants likely contributed to these results. The failures observed among vesicovaginal fistulas nonetheless suggest the need for a more detailed description of size, location, urethral involvement, fibrosis, and surgical technique in future studies.

The main deficit identified concerns reintegration. The absence of formalized psychological evaluation and financial support contrasts with the major social, sexual, and economic consequences of fistula. Anatomical closure, although essential, is not sufficient to restore quality of life. Care programs should incorporate screening for psychological distress, counseling, family mediation, continence follow-up, support for income-generating activities, and community reintegration.

This study has limitations. The descriptive design does not allow identification of factors associated with surgical success. The sample was non-probabilistic and limited to two urban centers, which restricts the generalizability of the results. Some information came from medical records and interviews, exposing the study to information and recall bias. Finally, no standardized quality-of-life or mental health

tool was used. Despite these limitations, the study provides useful data to improve surgical and psychosocial care for genital fistulas in Cameroon.

Conclusion

In two surgical centers in Yaoundé, operated genital fistulas mainly concerned young, socially vulnerable women, with a predominance of obstetric etiologies. Surgical outcomes were satisfactory, but the absence of formalized psychological and economic support revealed a major deficit in comprehensive care. The fight against genital fistulas must combine obstetric prevention, specialized surgery, functional follow-up, and structured psychosocial reintegration.

Declarations

Ethics approval and consent to participate

The study was conducted in accordance with the ethical principles of the Declaration of Helsinki. Research authorizations were obtained from the participating institutions. Ethical approval clearance was obtained from the Institutional Scientific and Research Ethics Committee of the Inter-State Centre for Higher Education in Public Health in Central Africa (CSERC), Brazzaville, Congo, approval No. 003/CSERC/CIESPAC/2020. Participants received information about the study objectives. Consent was obtained from all participants before inclusion in the study and data confidentiality was ensured.

Consent for publication

Not Applicable

Competing Interests

The authors declare no conflicts of interest related to this work.

Tables

Tables are placed on separate pages in accordance with the instructions to authors.

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Author Contribution

P.M.T conceived and designed the study, supervised the research, and led the preparation and final revision of the manuscript. J.A.C participated in data collection and performed the data analysis. D.L.T, J.S.S, and A.N.N critically reviewed the manuscript for important intellectual content. C.H.R provided expert scientific review and contributed to improving the manuscript. All authors read and approved the final version of the manuscript and agreed to its submission for publication.

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Data Availability

Anonymized data can be obtained from the corresponding author upon reasonable request, subject to applicable institutional authorizations.

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Tables

Table 1
Proportion of genital fistula surgery at the Yaoundé University Teaching Hospital between 2019 and 2020.

Surgical activity	**n**	**%**	**95% CI**
Genital fistula repair	23	5.64	3.79–8.32
Other surgeries	385	94.36	91.68–96.21
Total	408	100.00	

Table 2

Sociodemographic characteristics of women operated for genital fistula.

Characteristic	RVF n = 30	VVF n = 24	Total N = 54
Age, median (Q1; Q3)	30 (27; 36)	39 (32; 46)	33 (28; 40)
Age range, years	21–61	22–66	21–66
21–30 years	16 (53.34)	5 (20.83)	21 (38.89)
31–40 years	12 (40.00)	8 (33.33)	20 (37.04)
41–50 years	0 (0.00)	9 (37.50)	9 (16.67)
51–66 years	2 (6.66)	2 (8.34)	4 (7.40)
Primary education	5 (16.67)	8 (33.33)	13 (24.07)
Secondary education	13 (43.33)	15 (62.50)	28 (51.86)
University education	12 (40.00)	1 (4.17)	13 (24.07)
No income-generating activity	14 (46.67)	13 (54.17)	27 (50.00)
Has income-generating activity	16 (53.33)	11 (45.83)	27 (50.00)

Table 3

Gyneco-obstetric and clinical characteristics of the fistulas.

Characteristic	RVF n = 30	VVF n = 24	Total N = 54
Parity, median (Q1; Q3)	3 (1; 5)	2 (1; 5)	2 (1; 5)
Parity range	1–11	0–7	0–11
Obstetric etiology	28 (93.34)	14 (58.33)	42 (77.78)
Iatrogenic etiology	0 (0.00)	10 (41.67)	10 (18.52)
Other etiology	2 (6.66)	0 (0.00)	2 (3.70)
Duration with fistula, median (Q1; Q3)	2 (1; 10)	2 (1; 7)	2 (1; 8)
Duration range, years	1–20	1–22	1–22
Pliable peri-fistular tissue	22 (73.33)	12 (50.00)	34 (62.96)
Fibrosed peri-fistular tissue	8 (26.67)	12 (50.00)	20 (37.04)
Prior surgeries, median (Q1; Q3)	0 (0; 1)	0 (0; 2)	0 (0; 2)
None or one prior surgery	23 (76.67)	16 (66.66)	39 (72.22)
At least two prior surgeries	7 (23.33)	8 (33.34)	15 (27.78)

Table 4

Surgical outcomes of women operated for genital fistula.

Outcome	RVF n = 30	VVF n = 24	Total N = 54
Closure failure	0 (0.00)	5 (20.83)	5 (9.26)
Fistula closed	30 (100.00)	19 (79.17)	49 (90.74)
Fistula closed and continent	27/30 (90.00)	16/19 (84.21)	43/49 (87.76)
Fistula closed and incontinent	3/30 (10.00)	3/19 (15.79)	6/49 (12.24)

Table 5

Indicators of psychosocial and economic reintegration after surgery.

Indicator	RVF n = 30	VVF n = 24	Total N = 54
Reported suicidal ideation	1 (3.33)	2 (8.33)	3 (5.56)
Reported living in isolation	4 (13.33)	3 (12.50)	7 (12.96)
Financial support for IGA	0 (0.00)	0 (0.00)	0 (0.00)
Formalized psychological evaluation	0 (0.00)	0 (0.00)	0 (0.00)