Obstetric Fistulas: Epidemioclinical Aspects and Management at the Maroua Regional Hospital Summary

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ABSTRACT
Obstetric fistula is an abnormal communication between the vagina and the urinary tract or between the vagina and the rectum, or both, leading to urinary incontinence. The Cameroonian government with its developmental partners have set up centers to deal with these fistula among which, the one of the Maroua Regional Hospital. After two years of active operation, it was judicious for us to evaluate the functioning of the said center. Hence, the interest of this study led to the general objective of the evaluation of the management of obstetric fistula at the Maroua Regional Hospital Center. We conducted a cross-sectional descriptive study with retrospective data collection based on 118 records of patients managed during the study period. Results obtained showed that, the age group of [20-25] years were mainly represented in the sample. The vesico-vaginal form was the most common fistula with 72.90%. The surgical approach by the lower route with fistulorraphy was practiced in 84.70% of the overall cases. The success rate was 96.62% against 3.38% failure at hospital discharge. Long-term follow-up gave us a cure rate of 77.23% against 22.77% cases of recurrence. Conclusively, the results obtained are encouraging, however, more efforts are needed in terms of awareness and early detection of cases in the communities in order to eradicate this pathology.

Keywords: Obstetric Fistula, Maroua Regional Hospital, Fistulorraphy, Management, Vesico-Vaginal

Introduction
Obstetric fistula is an abnormal communication between the vagina and the urinary tract or/and rectum through which urine and/or faeces constantly leak [1]. Literally, it is an opening between the vagina and the bladder or rectum or both, which causes chronic urinary and/or faecal incontinence with adverse effects on the woman’s social life and health [2]. The World Health Organization (WHO) estimates that there are 2 million obstetric fistulas worldwide with an annual incidence of 100,000 new cases [3]. It is estimated that between 2 and 2.5 million women in developing countries suffer permanently from obstetric fistula-related problems. In sub-Saharan Africa, 20 to 30 women suffer from short or long term illness or disability, including genital damage, infertility or serious postpartum disability such as obstetric fistula [4]. Approximately 5,065 new cases per year in French-speaking African countries, either an annual incidence rate of 2% [5]. In Cameroon, the prevalence is 4 cases per 1000 women, nevertheless, an incidence rate of 500 to 1000 new cases per year was reported by [1].

The impacts related to obstetric fistula are several. Firstly, we have an anatomical and functional consequences (recurrent infections, sterility, sexual disability, urinary and/or faecal incontinence). Secondly, we have social consequences such as social exclusion, stigmatisation, discrimination and iatrogenic poverty following catastrophic expenses. The Cameroonian government has embarked on a campaign of obstetric fistula surgery through various activities supported by its technical and financial partners. These activities include prevention and surgical management. After two years of operation at the Maroua Regional Hospital Center, it is appropriate for us to question ourselves about how often and the quality of care received by the women who were suffering of obstetric fistula and treated in the premises of this specialized Center.

General Objective
Evaluate the epidemiological and therapeutic aspects of obstetric fistula in the care center of the Maroua Regional Hospital

Specific Objectives
Describe the sociodemographic characteristics of the patients; Identify the different types of fistulas and their management; Describe the postoperative follow-up.

Methodology
Type of Study
We carried out a cross-sectional descriptive study with a retrospective data collection.

Study Period
Study period went from September 14th 2020 to July 24th 2022 with data analysis as from July 27th 2022, to November 30th of the same year 2022.

Setting
The study was carried out in the Far North region, at the Maroua Regional Hospital and more specifically at the gynaecological and obstetric department of the same hospital.
Study Population
All records of women admitted for vaginal delivery at the Maroua Regional Hospital

Target Population
All records of women admitted and managed for obstetric fistula at the Maroua Regional Hospital

Type of Sampling
Non probabilistic consecutive sampling

Inclusion Criteria
All records of women managed for obstetric fistula at the Maroua Regional Hospital center during the study period and those who consented to the study for follow-up.

Non-Inclusion Criteria
All incomplete and unsuable patients records;
All patients who refused to participate to the postoperative follow-up process;
All records of patients previously treated at another center for obstetric fistula before admission

Data collection tools and technics
Hospitalisation files
Registration files
Surgical report register
To carry out this study, we established a data collection tool in the form of a questionnaire. Data collection was based on the census and exploitation of the files of fistulas recorded in the center during the study period. The files were analysed progressively according to the inclusion criteria and the data were recorded on the data collection form.

Ethical considerations
The identities of the patients and the therapeutic results were kept anonymous after informed consent from the participants

Statistical analysis
The data collected were processed and analysed using microsoft excel 2016 and sphinx V5

Contraints
The main limitation of this study was the retrospective nature making it difficult to access patients files.

Results
Frequency of Obstetric Fistulas
Out of a total of 1 895 cases of gynaeco-obstetric surgery, we collected 130 records of fistula cases either a frequency of 6.86%.

Sociodemographic Characteristics
Distribution of Patients According to age

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Number (n)</th>
<th>Frequency (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>15-20</td>
<td>6</td>
<td>6.8</td>
</tr>
<tr>
<td>20-25</td>
<td>14</td>
<td>15.9</td>
</tr>
<tr>
<td>25-30</td>
<td>23</td>
<td>26.3</td>
</tr>
<tr>
<td>30-35</td>
<td>19</td>
<td>21.7</td>
</tr>
<tr>
<td>35-40</td>
<td>16</td>
<td>18.2</td>
</tr>
<tr>
<td>40-45</td>
<td>11</td>
<td>12.7</td>
</tr>
<tr>
<td>More than 45</td>
<td>12</td>
<td>13.4</td>
</tr>
<tr>
<td>Total</td>
<td>118</td>
<td>100</td>
</tr>
</tbody>
</table>

Figure 1: Distribution of Patients According to age at Admission

Distribution of Patients According to Height (Meters)
Table 1 below shows the distribution of fistula patients according to height. It reveals that, 48.30% of the women with fistula were between the heights of 1.50 meters and 1.55 meters tall.

<table>
<thead>
<tr>
<th>Height (Meter)</th>
<th>Number (n)</th>
<th>Frequency (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>[1.45-1.50]</td>
<td>10</td>
<td>8.7</td>
</tr>
<tr>
<td>[1.50-1.55]</td>
<td>57</td>
<td>43.0</td>
</tr>
<tr>
<td>[1.55-1.60]</td>
<td>45</td>
<td>37.6</td>
</tr>
<tr>
<td>[1.60-1.65]</td>
<td>2</td>
<td>1.6</td>
</tr>
<tr>
<td>[1.65-1.70]</td>
<td>3</td>
<td>2.5</td>
</tr>
<tr>
<td>[1.70-1.75]</td>
<td>1</td>
<td>0.8</td>
</tr>
<tr>
<td>Total</td>
<td>118</td>
<td>100</td>
</tr>
</tbody>
</table>

Distribution of Patients According to Their Level of Education
The table below demonstrate a predominance rate of women without any formal education with 71.20% against 4.24% of those with higher educational level attendance.

<table>
<thead>
<tr>
<th>Educational Level</th>
<th>Number (n)</th>
<th>Frequency (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never attended school</td>
<td>84</td>
<td>71.2</td>
</tr>
<tr>
<td>Primary</td>
<td>17</td>
<td>14.4</td>
</tr>
<tr>
<td>Secondary</td>
<td>12</td>
<td>10.1</td>
</tr>
<tr>
<td>University</td>
<td>5</td>
<td>4.2</td>
</tr>
<tr>
<td>Total</td>
<td>118</td>
<td>100</td>
</tr>
</tbody>
</table>

Distribution of Patients According to the type of Fistula
Below is a table of the different types of fistula presented during study period. The most represented form (vesico-vaginal) recorded a frequency of 72.90%.

<table>
<thead>
<tr>
<th>Type of fistula</th>
<th>Number (n)</th>
<th>Frequency (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vesico-vaginal</td>
<td>86</td>
<td>72.9</td>
</tr>
<tr>
<td>Recto-vaginal</td>
<td>26</td>
<td>22.0</td>
</tr>
<tr>
<td>Mixed or combined fistula</td>
<td>6</td>
<td>5.1</td>
</tr>
<tr>
<td>Total</td>
<td>118</td>
<td>100</td>
</tr>
</tbody>
</table>

3-Care
Distribution of Patients According to the type of Anaesthesia used During Surgery

<table>
<thead>
<tr>
<th>Type of Anaesthesia</th>
<th>Number (n)</th>
<th>Frequency (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>General anaesthesia</td>
<td>80</td>
<td>71.2</td>
</tr>
<tr>
<td>Spinal anaesthesia</td>
<td>30</td>
<td>26.3</td>
</tr>
<tr>
<td>Total</td>
<td>110</td>
<td>100</td>
</tr>
</tbody>
</table>
Spinal anaesthesia was the most practiced anesthetic technic during this study period with 84.70%.

Distribution of Women According to the Surgical Approach
The vaginal approach predominated in this study with a rate of 84.70%.

<table>
<thead>
<tr>
<th>Surgical Approach</th>
<th>Number (n)</th>
<th>Frequency (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>112</td>
<td>94.92</td>
</tr>
<tr>
<td>High</td>
<td>5</td>
<td>4.25</td>
</tr>
<tr>
<td>Mixed</td>
<td>1</td>
<td>0.84</td>
</tr>
<tr>
<td>Total</td>
<td>118</td>
<td>100</td>
</tr>
</tbody>
</table>

Repair Techniques
Concerning the management of obstetric fistula at the Maroua Regional Hospital Center, the most practiced technic for fistula repair was fistulorraphy.

Distribution of Patients According to the Results of the Methylene Blue Test
The methylene blue test was performed to confirm the tightness of the fistulorraphy. In this study, 94.07% of women were tested negative and 5.93% tested positive.

Distribution of Women According to Continence after Surgery
The majority of the sample record, either 94.10% of the fistula patients had complete continence after surgery.

Immediate Follow-Up
Going from the first day of surgery to hospital discharge, 83.89% of the patients got complete recovery continence, whereas, 12.71% of the sample record got healed but without continence after surgery. A failure rate of 3.38% was recorded.

Long Term Follow-Up and Recurrence Rate
The success rate was 77.23% against 22.77% recurrences for this study period.

Discussion
Frequency of Obstetric Fistulas
We collected 130 cases of fistula records out of a total of 1895 gynaecological operations during study period with a frequency of 6.86%. This result corroborates with that of in mali who found in his study 5% of fistula cure. On the other hand, in Bamako-Mali, found a higher frequency of 15% of fistula cure which is far ahead of the one we obtained in this retrospective study [6, 7].

Type of Fistula
Vesico-vaginal fistula was the main presented form with a frequency of 72.90%. In Senegal, in Cameroon and in Congo, found in their respective studies 84%, 79.40% and 96% [2, 12]. This predominance rate of vesico-vaginal fistula is justified by the intimate anatomical relationship between the bladder and the vaginal and its functional importance during birth.

Surgical Approach
The lower approach was performed at a rate of 94.92% during surgery. Similarly in a design study carried out by in Gabon, a frequency rate for lower approach surgery of 93.6% was obtained and the same finding was also made by with a percentage of 93% [2, 13]. Also found in his study a predominance of vaginal route that is 79.41% [6]. This can be explained by the fact that the vaginal route is the most preferred route which guarantees to patients a better comfort during postoperative period recovery.

Sociodemographic Characteristics
Sample Age
The most the most represented age group of this sample study was that of range of 15 to 25 years [8]. More over, found that 52% of patients were under 20 years old [9, 10]. The predominance of this age group can be explained by the phenomenon of early pregnancy, low educational level of young girls and certain religious practices in this region (Fa-North Cameroon) of the country.

Heights
Short women of 1.50 to 1.55 meters tall are the most represented in this study sample with 48.30%. Similar observations were made by in Mali who found 43.20% of women of this height. In addition to Haroua, similar result were equally obtained by in their series with a greater percentage of 55.88% of short women [2, 9]. Thus it is kown that being short as a woman can be incriminated and considered as a predisposing risk factor to this pathology.

Educational Level of Women With Obstetric Fistula
71.20% of the women record files concerned in this study were not educated. Such an observation was equally made by in Ngaoundere-Cameroon and in Chad with respectively 70.2% and 91.60% [2, 11]. This can be explained by the fact that young girls drop out of school, are for the most unaware and as such do no benefit of the advantages of family planning systems.

Type of Anaesthesia
Spinal anaesthesia was the most practiced anaesthetic technic during surgery with 84.70% frequency. This result is almost similar to those obtained by in Mali and in Cameroon with 80% and 70.40% respectively [2]. The predominance of spinal anaesthesia could be explained by the fact that it is suitable for most pelvic surgeries.

Table 4: Distribution of Women According to Surgical Approach

Table 5: Distribution of Cases Following Immediate Follow-Up

Table 6: Distribution of Women According to Continence after Surgery

The methylene blue test was performed to confirm the tightness of the fistulorraphy. In this study, 94.07% of women were tested negative and 5.93% tested positive.

Distribution of Women According to Continence after Surgery
The majority of the sample record, either 94.10% of the fistula patients had complete continence after surgery.

<table>
<thead>
<tr>
<th>Immediate follow-up</th>
<th>Number (n)</th>
<th>Frequency (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Healed continent</td>
<td>99</td>
<td>83.89</td>
</tr>
<tr>
<td>Healed incontinent</td>
<td>15</td>
<td>12.71</td>
</tr>
<tr>
<td>Failure</td>
<td>4</td>
<td>3.38</td>
</tr>
<tr>
<td>Total</td>
<td>118</td>
<td>100</td>
</tr>
</tbody>
</table>

Case Management
Surgical Approach
Fistuloraphy was the main surgical technic performed for most vesico-vaginal splitting and excision of sclerotic edges. The same practices were observed by in Guinea Conakry, Kati-Mali and in Mali; all practiced respectively this surgical technic at different frequencies of 85.30%, 93.30%, and 41.18%. This technic was practiced at 100% in this center due to the surgeons mastery of the technic [6, 14, 15].

Methylene Blue Test Result
The result of the methylene blue test revealed a negative test of 94.07% of the cases. This result is greater than the ones obtained by which gave just 62.50% of negative result cases. This high rate could be explained by a very good mastery of the fistula care
Follow-Up Immediate Follow Up

In this study, the overall success rate of fistula closures was 83.89% and the failure rate was 3.38%. The results attained are almost similar to those of in Guinea and in Mali who obtained respectively 86.00%, 87.58% and 79.00% [16]. This can be explained by the fact that the fistula were repaired by professionals trained in this field [6].

Long-Term Follow-Up and Recurrences

The success rate during this study period was 77.23% versus 22.77% of recurrences. Our results corroborate with those of in Ngaoundéré-Cameroon who obtained 80% of success rate and 20% of recurrences. This can be explained by the good follow-up of the patients and the respect of the instructions by the patients decreed by the care staff [2].

Conclusion

At the end of this study, it appears that obstetric fistula remains a frequent pathology with 6.86% frequency rate in this part of the country (Far-North Cameroon). We obtained a low failure rate of 3.38% linked to the mastery of fistulorraphy surgical technic. The center is working to eradicate obstetric fistulas various forms. As such efforts must still be made regarding prevention through early awareness raising in order to achieve the objectives set when the center was created, which had as main goal the eradication of obstetric fistula in the Far-North region of Cameroon [17-39].

References


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