



# Epidemiological, Therapeutics Aspects and Socioeconomics Consequences of Urogenital Fistula

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**Abstract:** Introduction: The aim of this study was to analyze epidemiological, therapeutics aspects and socioeconomics consequences of this disease. Material and methods: Retrospective study realized in our service from 1<sup>er</sup> January 2016 to 30 May 2018. All managed UGF were enrolled. Results: 147 cases of UGF were enrolled accounting for 20, 41% of our activities. Mean age: 34, 06±21, 81. The majority of patients came from SKO rural area and 98, 63% of them are housewife doing no rewarded jobs. Obstetrics fistula was predominant with prolonged obstructed labor as the main etiology. Urine leakage was the main reason for seeking consultation. Simple fistulorrhaphy under loco regional anesthesia has been performed and the result was globally good (78%). HUC Point G classification have been adopted for fistula description. There is an appropriate surgical abscess way for every type of fistula and this study showed a significant difference between different type of fistula in term of surgical operation length, number of surgery and therapeutic prognostic. Conclusion: UGF remains a public health problems. Girl's socioeconomic life promotion, Education and raising awareness against some bad traditional practice and skilled obstetric facilities attendance could be helpful for prevention. Standard classification seem to be necessary in the way to help in surgeon training and objectively evaluate our result.

**Keywords:** Obstetric Fistula, Urine Leakage, Anatomopathologic Classification, Fistulorrhaphy

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## 1. Introduction

Urogenital fistulae UGF is an abnormal acquired communication between urinary and genital voices. Contrary to developed countries, those fistula happen during difficult childbirth and are often associated to others serious lesions [1-3]. According WHO and UNFPA estimation, more than 2000000 women around the world are suffering from

obstetric fistulae and most part of them are from Sub-Sahara African countries. [4, 5].

UGF is a social drama because of women's physical integrity violation and its leading to negatives socioeconomics consequences. Huge publication in literature report different experiences in UGF management. But concerning type of fistulae definition and their surgical managements there is a difference between surgical teams. Therefore, Standard classifications which can help in term of

surgical results assessment and objective comparison are missed.

This study objectives were

- 1) Analyse UGF epidemioclinical aspects and its socioeconomic consequences.
- 2) Describe different type's anatomopathologic of UGF.
- 3) Evaluate urogenital their surgical repairs and how much HUC Point G (hospitalo-university center of Point G) classification can be helpful in making decision for surgical management.

## 2. Materials and Method

Retrospective study realized in our urology department during the period of 1st january 2016 to 30 May 2018. All patient admitted and treated in our department because of UGF, during the campaign of UGF surgical management organised by Fistula-Mali or during our daily activities, were enrolled in this study.

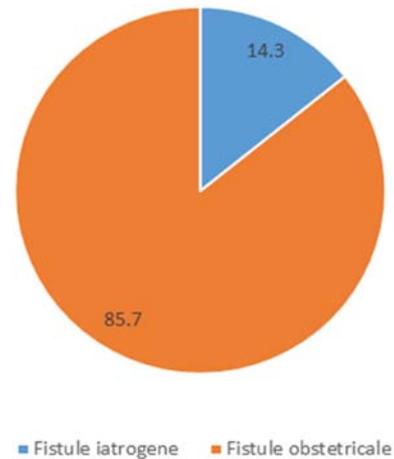
Data of hospitalisation and the register of surgical protocol were used to collect information regarding sociodemographic aspects, motif of consultation, aetiology, anatomopathological aspects and its duration time; previous surgical attempts and actual surgical repairs result.

UGF type was defined according CHU Point G classification (Table 2).

Data statistical analyse have been done by SPSS20

**Table 1.** Patient's repartition according locality of origin.

| Provenance area    | Effective | Percentage |
|--------------------|-----------|------------|
| Sikasso urban city | 10        | 6,80%      |
| Sikasso rural area | 97        | 65,98%     |
| Bamako             | 3         | 2,04%      |
| Kayes              | 1         | 0,68%      |
| Mopti              | 4         | 2,72%      |
| Segou              | 7         | 4,76%      |
| Burkina Faso       | 2         | 1,36%      |
| Ivory cost         | 22        | 14,96%     |
| Mauritania         | 1         | 0,68%      |
| Total              | 147       | 100%       |



**Figure 1.** UGF patients distribution according aetiology.

**Table 2.** Anatomopathologies Characteristics of UGF (Classification HUC-Point G).

| Type de fistule            | Anatomopathologies characteristics  | Effectifve |
|----------------------------|---|------------|
| Type I                     | Punctiforme fistula of Vesico-vaginal septum  | 21         |
| Type II                    | Vesico-cervico-uretral fistula  | 42         |
|                            | IIA: without urethral destruction   | 35         |
|                            | TypeIIAa=Uretro-vesico-vaginal fistula  | 19         |
|                            | TypeIIAb=Partial dysinsertion   | 12         |
|                            | TypeIIAc=Total dysinsertion   | 4          |
| Type III                   | IIB: with urethral destruction  | 7          |
|                            | Trigono-cervico-utero-vaginal Fistula   | 29         |
| Type IV or complex fistula | large fistula extending to both cervix + vaginal sclerosis / mixed fistula (Vesico-vaginal+Recto-Vaginal fistula) | 24         |
| Type V                     | High Fistula (iatrogenic)   | 21         |
|                            | Uretero-vaginal fistula:  | 6          |
|                            | Retro trigonal: fistula   | 13         |
| Recto-vaginal fistula      | vesicouterin fistula  | 2          |
| Recto-vaginal fistula      | Fistula localised between rectum and vagina   | 10         |
| Total                      |   | 147        |

**Table 3.** Summary of the surgical approach and perioperative complications.

| Type of fistula | Surgical approach                                  | Perioperative Complication            |
|-----------------|--|---------------------------------------|
| TypeI           | Transvaginal voice 100%                            | Perioperative hemorrhage (4,75%)      |
| TypeII          | Transvaginal Low voice 100%                        |                                       |
| TypeIII         | Transvaginal voice (51,72%)                        |                                       |
|                 | Transvaginal voice+ bilateral Episiotomia (27,58%) | Perioperative Hemorrhage (24,13%)     |
|                 | High Transabdominal voice 20,68%                   |                                       |
| TypeIV          | Mixed Voice (20,88%)                               | Perioperative hemorrhage (38,08%)     |
|                 | Trans vaginal voice+Episiotomia (25%)              | Thrombo-Embolic accident (9, 52%)     |
|                 | Transvaginal voice (54,16%)                        | Ureteral lesion (4, 46%)              |
| TypeV           | Transabdominal voice 100%                          | Dead 8,33%                            |
|                 |  | OSI vesico cutaneous fistula (19,04%) |

**Table 4.** Comparison of surgical intervention time Two samples T Test with Equal variances (IC: 95%).

|           | Type I    | Type II  | Type III | Type IV   | Type V    |
|-----------|-----------|----------|----------|-----------|-----------|
| Effectif  | 21        | 42       | 29       | 24        | 21        |
| M+Std Dev | 35,1±6,44 | 44,1±9,9 | 74,19±14 | 106,1±25, | 656,1±7,5 |
| Std Error | 1,34      | 1,34     | 2,61     | 5,22      | 1,63      |
| P         | 0,0004    | 0,000    | 0,000    | 0,0000    |           |

**Table 5.** Different type's fistula number of surgical attempts comparison Two samples T Test with Equal variances (IC: 95%).

|           | Type I  | Type II | Type III | Type IV | Type V  |
|-----------|---------|---------|----------|---------|---------|
| Effectif  | 21      | 42      | 29       | 24      | 21      |
| M+Std Dev | 1,9±1,2 | 2,7±1,2 | 2,2±1,6  | 3,3±2,6 | 1,6±1,4 |
| Std Error | 0,268   | 0,187   | 0,297    | 0,830   | 0,305   |
| P         | 0,0175  | 0,137   | 0,064    | 0,0106  |         |



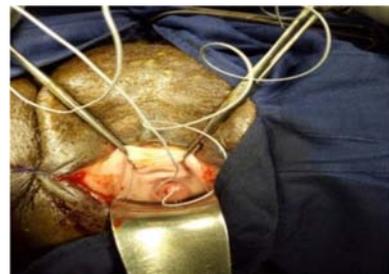
**Figure 2.** Intraoperative image of type I fistula showing methylene blue Evacuation through external orifice.



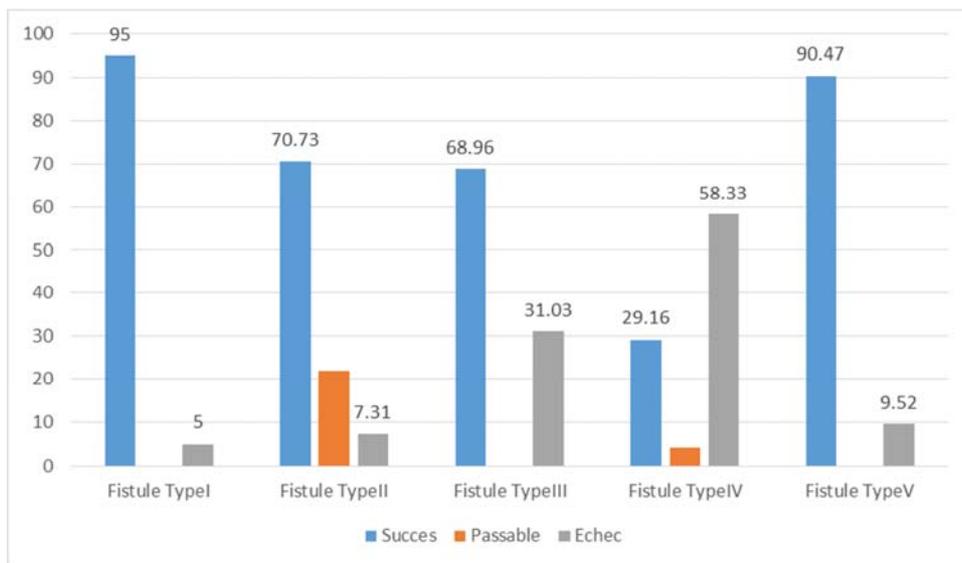
**Figure 4.** Intraoperative image of type V fistula leaving Appear vaginal mucosa through cystotomy.



**Figure 3.** Intraoperative image of type II fistula objectived by forceps exit through the proximal urethral opening.



**Figure 5.** Intraoperative transvaginal image of a type III fistula through which we see the two catheterized ureteral meatus.



**Figure 6.** Distribution of patient according surgical management result.

### 3. Results

Socio-demographic aspects:

Totally 147 cases of UGF were enrolled accounting for 20, 41% of our surgical activities

Mean age was 34, 06±21, 81 (16 à 70ans). Patient majority was housewife or seller (98, 63%)

Patients were from different localities (Table 1):

Etiological aspects and risk factors:

Obstetrical fistulae represents 85, 72% and their labour mean duration time was 45,13±24,32 (6-96heures). Iatrogenic fistula: 14, 30%.

Mean age 1st Marriage was 15, 95±2, 69 (10 – 30ans)

Thirty four patients (25%) were primiparous and patient's mean parity was 4, 46±3, 16 (1-15)

Motif of consultation:

Urine leakage: 133 patients (90, 47%)

Urine and stools leakage: 5 patients (3, 40%)

Stools and/or gaz leakage: 9 patients (6, 12%)

Socioeconomic consequences of disease

Toilette and body hygiene: Mean number of pad /day: 4, 03±1, 88 (1-10); 75% of patients used at least 3 pads/day

New borne state: Stillborn rate: 85, 72%

A live born rate: 15, 28%

Patient's matrimonial status after disease

Married women: 85, 03%, Single women: 2, 76%

Divorced/ or Separated: 10, 88%, Widow: 1, 36%

Therapeutic management:

Duration time of disease evolution: Mean time duration: 76, 04±111, 95 (1-444months)

Source of financial means for surgical repairs:

Project Fistula-MALI→Campaign of UGF free management: 90%

Parents or others financial sources→routine surgery: 10, 10%

Surgical repair and surgical access voices:

All surgical operations were carried out under LRA (locoregional anesthesia)

Simple vaginal voices: 68,39%, Mixed (vaginal +Abdominal) voices: 3,40%

Vaginal voices+ Episiotomia: 9,52%, Intrabladder or retroperitoneal abscess: 17%

Global results:

Success rate: 71, 03%, Death rate: 1, 36%

Bad result (failure): 20, 69%, Acceptable (intermediate result): 6, 90%

### 4. Discussion

Although the relative high frequency of UGF, it's not easy to know the real incidence of this pathology, because of epidemiological system insufficiency.

Nevertheless, compared to previous studies, the prevalence of this pathology remain important in our activities [6]. That could be explain by increasing number of patient seeking for treatment during the campaign of UGF free management

organised by fistula-Mali. Even know that our health care authorities deployed huge efforts to fight against obstetric fistula, obstetric aetiology remain predominant. UGF is a result of smooth tissue ischemic necrosis following its compression between foetus presentation and pelvis bone during prolonged and obstructed labour. Parallel to fistula development, these women present some traditional factors of increased perinatal mortality such as: early marriage, analphabetism, lack of rewarded jobs and difficult access to qualified obstetric care facilities [7, 8]. Something that would confirm that women suffering from obstetric fistula is none other than death survivor.

The psychological and socioeconomic impact of FUG in our series are similar to other studies [9]. Indeed, the extent and nature of the manifestations depend on the size, location and number of lesions observed after necrotic tissue slogging. These women in addition to smelling the disgusting smell of urine and enduring wound's pain, chemical aggression of the urine; they have also lost a precious child and, often find themselves in solitude, abandoned by the community and forced to give up marital duties.

The foundations of fistulorrhaphy were laid by American Marion Sims from the experience gained during the campaigns of female slaves victims of UGF surgical management in Montgomery, Alabama [10]. Since that day, this surgery has evolved a lot, each team trying to bring its own touch in the aims to improve their result, hence the development of several techniques for UGF surgical repairs [11-14]. Our option was simple fistulorrhaphy under loco regional anesthesia. The exposure of the fistula was facilitated by the traction on a catheter introduced through the orifice and the balloon of which is inflated inside the bladder, the traction on allices forceps placed around the fistula or the successive repression with the benique of the posterior and anterior commissures of the fistula.

Regarding the overall result, we got 78% of good result with the possibility of spontaneous urination and a failure rate estimated to 20.70%. This acceptable result compared to others, is mainly explained by the fact that the majority of the interventions were carried out either by experts themselves or in their company.

Depending on the result of surgical repairs (Table 3): Each type of fistula has its appropriate surgical approach. Type I type II fistulas, which are classic obstetric fistulas, could be approached exclusively through the simple vaginal route; All type V fistulas, also called iatrogenic fistulas, have been approached by the intrabladder or retroperitoneal route. Concerning type III fistulas, the majority have been approached by the vaginal voice and often associated to episiotomy. But the hypogastric transvesical route has been adopted whenever we have found difficulties in ureteric meatus catheterization. While type IV fistulas, whose multiple and extensive traumatic lesions are often associated to diffuse vaginal sclerosis, have been approached either by vaginal route associated to bilateral episiotomy or by mixed voice. Regarding the therapeutic prognosis: type I and type V

fistulas have given the best success rates, contrary to type IV fistulas which have the highest rate of failure and perioperative complication. While type III or trigonal juxta meatique fistulas have an acceptable success rate, but they have also a significant failure and complication rate. Type II or cervico-urethral fistulas: Type II Ac and Type II B subgroups are among those with a poorest therapeutic prognosis. Many of them continue to lose urine despite good anatomical closure. Something that would probably due to a disturbance of sphincter function following a probable damage of relative nerves or an unrecognized sphincter proper lesion (Figure 6).

The comparative analysis of the results with the respect of duration time and the number total of surgical operation reveals a statistically significant difference between different types of UGF (Tables 4, 5).

In the light of this result, CHU Point G classification showed a certain ability to describe lesions with precision, to help in the choice of surgical approach, but also to assess the difficulties associated surgical repairs and its prognosis. Nevertheless, although she shares a certain analogy with others classification; this classification have been shown to be simple, much more precise and exhaustive compared to current classifications [15-18].

Kees waaldjik's classification: She did not identify the type III which, however, is one of the most frequent in our activities and the most delicate types from a surgical point of view.

Camey's classification: she deserves credit for having identified type III, but she did not give any importance to the size of the fistula. Type IV fistula, especially the one that combines vesicovaginal and rectovaginal fistula, has not been identified. Urethro-cervico-vaginal fistulas are wrongly considered to be heavy or complex when sphincter involvement is not always obvious and covering entities with totally different prognoses.

Benchekroun's Classification: instead the fact of type III fistulas individualisation, it has been camouflaged in its type I. While the iatrogenic type V fistulas which are more and more frequent in our practice, have been completely omitted.

## 5. Conclusion

Real public health problem. The fight against of goes through girl's socioeconomic and education promotion; awareness raising against religious and traditional negatives practices and facilitate access to emergency obstetric and neonatal care. The result of chirurgical management depends not only on the experience of the surgeon but also on the completeness of lesions assessment and the therapeutic modality good choices. For complex fistulas with fibrosis and significant urogenital destruction or sphincter damage, continent urinary diversion techniques should be considered in case of repeated failure. The CHU Point G classification has certainly proven to be efficient. However, more studies are needed to magnify its full value. The development of standard classification system seem to be necessary, so that through

good codification, surgeons training will be easy, their results evaluation and comparison can be done on objective basis.

## Conflict of Interest

The authors declare that they have no competing interests.

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