



ISSUES IN CLINICAL MANAGEMENT

One-stage repair for combined fistulas: Myth or reality?

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KEYWORDS

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Abstract

Objective: The repair of combined vesico-vaginal fistulas (VVF) and recto-vaginal fistulas (RVF) is challenging to both surgeon and patient. The multistage approach involves at least 3 surgical sessions, all associated with morbidity and sometimes with a colostomy procedure as well. The outcomes of the 1-stage approach were examined. **Methods:** Twenty patients aged between 16 and 38 years were recruited for a multicenter study conducted from March 2005 to August 2006. Prolonged obstructed labor was the cause of all fistulas. The VVFs were mainly midvaginal (60%), juxtaurethral (25%), and juxtacervical (15%). The RVFs measured between 1 and 3 cm, they were low in 70% of cases, and 1 was associated with fourth-degree perineal tear. Bowel preparation was performed in all patients prior to surgery. No patient underwent temporary colostomy. **Results:** Both VVFs and RVFs were successfully closed in all patients, as evidenced by the continence dye test. **Conclusion:** The combined repair relieves economic constraints and emotional challenges, and it accelerates restoration to health and social reintegration for women affected with both VVFs and RVFs.

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1. Introduction

Six to 24% of patients with obstetric fistulas have a double injury, a vesico-vaginal fistula (VVF) and a recto-vaginal fistula (RVF) [1,2]. Because the pungent odor of the leaked urine is worsened by fecal incontinence, women with

combined fistulas are even more neglected by their communities than those with a VVF alone [3,4]. Moreover, these women must overcome the added expense and challenges of multiple-stage surgery before they have a chance to be cured [5]. The surgeons are taxed and challenged as well, and often choose to treat simple VVFs rather than the combined sort, with its daunting appearance and higher risk of repair failure.

Prior to closure, morbidities experienced by patients with combined fistulas include repeated infections, malnutrition, and psychological problems sometimes resulting in frank depressive illness [6,7]. Most women living with fistulas reside in remote communities that lack basic social necessities and must travel long distances to access

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treatment [4,7,8]. In addition, the cost of repair per session is between 150 and 450 US dollars, far beyond the means of most of these women [9,10].

Over the years, fistula surgeons have developed the practice of performing temporary colostomy for fecal diversion, especially in cases of high and/or large RVFs [11,12]. Moreover, a mandatory 2- to 3-month waiting period is observed between VVF closure and RVF repair [11,12]. The patient is therefore subjected to surgical and anesthetic risks at least 3 or 4 times before she has a chance to be relieved of the nuisance of having a RVF. When colostomy is performed, it is associated with a series of morbidities such as skin irritation, recurrent hemorrhage, stoma infection, prolapse, or peristomal herniation [13,14]. If not properly managed, these complications may result in death. In addition, colostomy care can be challenging and purchasing necessary colostomy materials further taxes the patients' meager resources. Other preoperative formalities and expense include low-residue diets, use of bowel antimicrobials, and daily use of laxatives and enemas [11,12].

Patients are subjected to multiple-stage repair because of the fear that the VVF site will become infected from fecal soiling while being repaired, with eventual breakdown of the repair. Our experience over the years has shown that the fistula surgeons' anxiety is excessive, and we believe that the multiple-stage approach would seldom be necessary if the patient's bowel were adequately prepared preoperatively. With bowel preparation, there may be no need for a colostomy.

Policy makers and other stakeholders are agreed that, along with building facilities and subsidizing care, a concerted effort should be made by all concerned to alleviate the suffering of women living with fistulas [15]. In line with this spirit, we took on the challenge of modifying the usual technique by which patients with combined fistulas

are treated. Our intention was to offer them a 1-stage cure without temporary colostomy. The objective of this article was to assess the outcomes of the 1-stage repair approach in women with a combined VVF/RVF.

2. Methods

This study was conducted from March 2005 to August 2006 at the University College Hospital, Ibadan, Nigeria; the VVF Center, Birnin Kebbi, Nigeria; and Juba Teaching Hospital, Juba City, Sudan.

Twenty patients who presented with symptoms of urine and fecal incontinence were assessed. The history that led to their fistulas was taken before they were given a thorough physical examination. The gynecologic part included examination with a Sims speculum and a methylene blue dye test without any anesthetics or sedatives. The patients gave consent for surgery after they had the opportunity to discuss their fear of such complications as infection and repair site breakdown following the 1-stage repair. Prior to surgery, they were encouraged to drink plenty of water (4–6 L per day). Three to 5 days before surgery, bowel preparation was initiated with a low-residue diet (pap or "fura"), an antimicrobial bowel treatment with 1 g of neomycin every 12 h, and a laxative every evening. An enema saponis was performed on the night preceding the surgery, and another as a rectal wash-out on the morning of the surgery. Temporary colostomy was not performed in any of the patients.

All patients had their repairs performed vaginally in the lithotomy position using subarachnoid block anesthesia (spinal anesthesia).

The VVF was repaired first in all patients using the traditional techniques of tissue separation, closure of bladder in 1 layer using 2–0 chromic catgut or Vicryl sutures (Ethicon Inc, Somerville, NJ, USA) without tension, and closure of the anterior vaginal wall in 1 layer over the repaired VVF site.

Table 1 Patients' age and parity, fistula duration before presentation, and features of the combined fistulas

Patient No.	Age, yr	Parity	Duration, yr	VVF		RVF	
				Position	Size, cm	Position	Size, cm
1	30	1	14	Juxta-U	3	Low	1.5
2	28	1	12	Mid-V	2	High	2
3	30	1	16	Massive	5	3rd-degree tear	4
4	21	1	5	Massive	5	Mid-V	2
5	22	1	7	Juxta-U	4	Mid-V	2
6	17	1	2	Juxta-C	3	high	2
7	22	2	4	Mid-V	3	High	3
8	31	4	5	Mid-V	2.5	Low	2
9	28	1	8	Juxta-U	2	Low	2.5
10	18	1	2	Juxta-C	3	High	1.5
11	33	3	6	Mid-V	3	Mid-V	2
12	17	1	1	Mid-V	3	Low	2.5
13	38	8	5	Juxta-U	2.5	Low	3
14	24	2	3	Mid-V	4	High	2
15	25	1	6	Juxta-C	3	Mid-V	2.5
16	32	3	5	Mid-V	2	High	2
17	27	2	4	Juxta-U	3.5	Mid-V	2.5
18	16	1	1	Mid-V	4	Low	2.5
19	17	1	1	Mid-V	3	Low	2
20	18	1	2	Mid-V	2	Low	3

Abbreviations: C, cervix ; U, urethra ; V, vaginal.

After the RVF tract was excised, the rectal wall was separated to at least 2 cm from the edge of the fistula and repaired in 2 layers. Then, the posterior vaginal wall was closed in a single layer over the repaired RVF site. In 1 patient with a high, 3-cm RVF, an area of the vaginal wall less than 1 cm was allowed to granulate because of poor tissue.

The patients received routine postsurgical management and were followed-up at 4, 8, and 12 weeks. Antibiotics were used in 2 patients in whom bowel preparation had not been optimal.

The outcomes examined in this study were urinary and fecal continence. Continence was assessed by a dye test in the operating room at the end of the surgical session and from history taking at discharge and at the follow-up visits.

3. Results

Of 20 patients, 12 were recruited at the Birnin Kebbi VVF Center, Nigeria, 5 at University College Hospital, Ibadan, Nigeria, and the remaining 3 at Juba Teaching hospital, Sudan. [Table 1](#) shows each patient's age, parity, fistula duration before presentation, and the features of her combined fistula.

The age range was 16 to 38 years. All patients sustained their fistulas from prolonged obstructed labor, and 1 patient had undergone hysterectomy because of uterine rupture. The VVFs were mainly midvaginal (60%), juxtaurethral (25%), and juxtacervical (15%). The RVFs, which measured from 1 to 3 cm, were low in 70% of the patients and in the posterior fornix in 30% of the patients. One patient had a 4-cm, third-degree perineal tear.

Tissue fibrosis was absent in 13 patients, minimal in 5, and moderate in 2. All patients healed successfully and regained complete continence. Five patients (1 from University College Hospital and 4 from the Birnin Kebbi VVF Center) had undergone 1 previous repair attempt for each of their fistulas, and 1 patient from the Kebbi group had 2 previous attempts at repair.

4. Discussion

Surgeons have worked at developing new techniques and approaches in their effort to ease the physical and mental pain of women with fistulas. Waaldijk [16], for example, has published his experience at repairing fresh obstetric fistulas, and colleagues are now following suit. And although he devised this approach for the benefit of women treated in rural settings, it has been found useful in urban settings and tertiary hospitals as well. Moreover, some surgeons have sought to adapt it to the repair of combined VVFs and RVFs in 1 surgical session, in an effort to break the myth that this is not possible. For instance, in Tanzania, Mahendeka [17] has extended the Waaldijk approach to patients with combined fistulas by advocating early repair. Although the study he reported on was retrospective, it demonstrated a success rate similar to that obtain with the classic, multistage practice.

While the 1-stage repair of combined VVFs and RVFs has been regarded as a myth, affected women have been left waiting at busy centers for a first procedure, or for the next stage of repair, or for treatment for a complication from a particular stage. Such waiting is devastating to the women and their relatives. Because of all the frustrations encountered, most affected women lose their supporters during this period. Therefore, it is imperative to break the myth by offering definitive care once and for all. Our experience has demonstrated that the 1-stage repair of a combined VVF and

RVF without temporary colostomy is not only feasible but safe, and that its success rate is high in skilled hands.

Although the 1-stage repair of a combined VVF and RVF may sound formidable, we did not encounter any serious complications such as excessive bleeding or ureter damage, and none of the patients sustained any significant morbidity during the trial. This new method of repair confers the advantage of early reintegration of the patients into their communities, thereby lessening their psycho-social ordeal. Another benefit of this method is that all patients were kept from colostomy complications such as bleeding, prolapse, herniation, and the unpleasant effluent of the stoma [14]. In addition, combined repair is practicable in places where surgeons skilled in colostomy are not available.

On the morning of the repair, bowel preparation was performed too close to the time of surgery in 2 patients. The consequences of this oversight were unpleasant, but although fecal soilage disrupted the pleasure of the surgery, it did not prevent its success.

We are about to begin training a fistula surgeon in this approach, with the aim of popularizing it, thereby expanding access to repair for women living with a combined VVF/RVF. But more data need to be collected to further validate this initiative, which is seen as a paradigm shift from the old multiple-stage practice.

As we strive to achieve the goals of the Millennium Development Goals concerning maternal health, innovative strategies must be employed to create new momentum. Performed by skilled hands, the repair of carefully selected combined VVFs/RVFs in a single surgical session overcomes economic constraints and emotional challenges, and accelerates restoration to health and social reintegration.

Conflict of interest

None. There was no financial or personal commitment with any individual or organization that may have determined the design and eventual outcome of this study. We do not have any other potential conflict of interests to disclose.

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