national vvf project nigeria

evaluation report IV

1993

reprint

Babbar Ruga Fistula Hospital
KATSINA

and

Laure Fistula Center
KANO

by

Kees WAALDIJK

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VVF-projects

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fourth evaluation report
VVF-projects KANO and KATSINA

introduction

It has been a difficult though fruitful year! What kept us going on was the tremendous suffering of the poor girls and women, roughly **60 to 70% of them teenagers**.
On the **negative** side: there were 2 government administration turnovers with political instability, 4 armed robbery attacks whereby one watchman was killed, two seriously injured and all the cameras stolen, severe fuel scarcity throughout the year, multiple strikes on different levels of civil servants and hospital personnel, the Task Force run out of money and the deputy surgeon in KATSINA became seriously ill which prevented us from working normally. One has to be frustration proof, for sure.
On the **positive** side: the immediate management of fresh obstetric fistulas proved to be a success, we reached the 1,000 mark in operations, and there was an international breakthrough as the United Nations Development Programme are going to sign an agreement with both Kano and Katsina State for 3-4 years including VVF and the Netherlands Government signed an agreement with the National Task Force on Vesicovaginal Fistula for 2 years.

long-term objectives

It is expected that the prevalence of the obstetric fistula will increase in the near future as there is a population explosion without a concurrent increase in health facilities.
Prevention will only be possible by an increase in quantity and quality of secondary health care and by general education of the people, especially the females, so they will fight for their rights on maternal health.
Until that time the obstetric fistula will continue to be a major public health problem; and unfortunately we have to concentrate on the training of doctors/nurses in the developing countries in the curative aspects.
N.B. During the year, 93 patients were seen coming from within KANO city!!!

short-term objectives

KATSINA

The last phase of upgrading the operation theater complex, by creation of a separate sterilization room and a separate scrubbing room within the existing facilities, has been completed.
The only thing left is the reliable supply of **clean** water to the hospital in stead of the present supply of water by bucket from several wells on the compound where the water level is 20-25 m below the ground.
Also since the hospital ambulance has been grounded after 10 years of "service", a PEUGEOT J5 bus is needed.
The theoretic capacity of 750-1,000 repairs a year seems to be sufficient for now and in the future, as there is still a possibility of extending the number of postoperative beds.
Considering the existing facilities and the future possibilities, perhaps it would be better to define KATSINA as the International Training Center as well.

KANO

Except for a plan and digging the trenches, no progress has been made with another 20-bed postoperative ward as there is no money available.
Patients planned for operation have to sleep outside on the already crowded premises of Murtala Muhammad Specialist Hospital which is a problem during the raining season and during the cold harmattan period. Communication between the hostel, at a distance of ± 2-3 km in town, and the hospital is not optimal, and it is not possible to transport the patients in the morning from the hostel to the hospital.

Also major repairs have to be undertaken on the existing 20-bed postoperative ward, as part of the floor caved in and part of the roof broke down.

In both centers KANO and KATSINA there is an urgent need for 2 hydraulic high-quality operation tables; so four in total
Within the United Nations Development Programme there are two operation tables included as well as in the agreement between the Netherlands Government and the National Task Force on VVF.
How long will it take before the money is available and how long will it take to ship these tables into Nigeria???

In KANO the number of postoperative beds has to be increased to cope with the increased demand
The Kiwani Club in ALPHEN a/d RIJN is trying very hard to raise the money for the new postoperative ward in KANO.
Also here how long will it take to raise the money and how long will the construction take???

In KATSINA there is also need for transportation for which a PEUGEOT J5 bus is required
Who will supply us with it???

However, from no hope at all there is now a good chance that within 2 years all these things will become available!!!! The road is long but it is worth the effort.

activities

training (see Annex I)
During the various courses for the different cadres of doctors, only the basic surgical principles of VVF/RVF-surgery including history taking, preoperative care, catheter treatment, spinal anesthesia, postoperative care, follow-up and counselling can be taught.
general doctors with at least 3 yr surgical experience
Sofar, 15 doctors from 8 different states have been trained for a minimum period of 3 months.
senior registrars in gynecology/obstetrics
A total of 9 senior registrars have had ample exposure during their 3-week programme accompanying the consultant in both centers.
residents in anesthesia
One doctor came forward to be trained in spinal anesthesia and others are encouraged to do the same.
visiting consultants
The 6 consultants came for a 2-week visit to both centers to have a look around and see if they could benefit from our programme which I hope they did.

surgery (see Annex II)
I am very proud to announce that despite all the difficulties we reached the one thousand mark, as we performed a total of 1,001 operations (a story out of the Arabian nights?), viz. 550 in KATSINA and 451 in KANO.

For this the theater staff in both centers have to be praised who are working many days on odd hours.

The reliable supply of surgical instruments, spinal anesthetic agents and suturing materials was only possible due to continuous donations by the stichting van Tiel Tot Tropen, the Kiwani Club in TIEL and the Wereldwinkel in MAASTRICHT.
The waiting list of the new patients decreased drastically, at the utmost they have to wait 2-3 weeks before being operated.
On the whole the success rate improved as to closure and to continence but still there are some patients in need of multiple operations.
From the moment a patient comes to the hospital until she is discharged from treatment each patient is examined at least 8-10 times and everything is documented in writing and where applicable in photography.

research

generally
Our principal aim is to make fistula surgery as simple as possible without loss of quality sothat it can be performed under primitive conditions. An academic approach will not work. It could be called public health surgery.

VVF-surgery
classification (see Annexes)
The classification based upon the anatomic/physiologic location proved to be very valuable.
route of operation
Which surgeon is contemplating of performing a tonsillectomy through the neck? All the VVF-repairs have been performed through the vagina with the exception of one only, a vesicouterine fistula and the second repair in the consultant's life who is an abdominal/traumatologic surgeon by profession!
position of the patient
Inavariably the (exaggerated) lithotomy position with the legs flexed and abducted and the buttocks far over the end of the operation table.
assistance
Only the surgeon and an instrumentating operation nurse. Two retractors inside the vagina are already a crowd.
instruments
Normal vaginal instruments, including an AUVARD self-retaining speculum, a pair of curved THOREK scissors and a sharp DESCHAMPS aneurysm needle.
suturing materials
Only chromic catgut for the bladder/urethra and supramid for the anterior vagina wall on small needles. No atraumatic suturing materials which actually would be preferred for urethra reconstruction.

immediate surgical management; with catheter and/or early closure
Out of the 302 patients treated during the 17-month period (since started in August 1992), the fistula was closed in 286 (94.7%). Also the continence rate was very good as only 3 (1.9%) out of 156 patients with closed fistula who completed 6 months "postoperatively" complained about and demonstrated severe incontinence.
It has become the standard treatment for any woman with a fistula duration of less than 3 months, and can be recommended to any fistula surgeon.
The latest development is to perform debridement of the necrosis in order to speed up the healing process, so early closure becomes even earlier.
Its main advantage is not only its high success rate as to closure and continence, but especially the prevention of the girl/woman from being ostracized out of her own society.

RVF-surgery
As a colostomy is unacceptable to African patients, all our RVF-surgery is done without it. As an abdominal approach is too risky in our set-up, only the vaginal route is used though it must be said that a combined vaginal/ abdominal procedure in certain types would be preferable.

A lot of research has been done on the RVF-surgery, and slowly but surely the success rate is improving.
Since we started a combination of intravaginal/intrarectal surgery (using PARK retractors) it seems we are on the right way.
Also whenever possible we combine the VVF-repair with a RVF-repair in the same session, with good results.

spinal anesthesia
It is the anesthesia of choice for operations on the lower half of the body as it simple, effective, safe and cheap. No major investment is required.
N.B. the total costs per anesthetic procedure including everything (equipment, drugs, gauze, methylated spirit etc) is not up to one US dollar!

administration/documentation
The time spent on administration/documentation is at least 2-3 times more than the time spent on operating.
It is extremely important that the work is documented properly, otherwise nobody knows what he/she is doing.
The Schumacher-Kramer Foundation in AMSTERDAM made funds available to purchase professional cameras and computers with printer.

database (see Annexes)
Within the coming 2 years all the 400,000 parameters collected sofar will be put into an extensive computerized related dBase programme sothat the various determinators can be analysed.

photography
Already for years, each fistula/operation has been documented by at least 3-5 color photographs/slides, including multiple series of 30-40 slides for the different operation technics; sofar over 20,000 color slides. The trend is to even extend this type of documentation.

video
Some 30 hours of operation technics have been documented by video, but we need a semiprofessional camera sothat these videos can be edited and then multiplicated. Also a documentary of the obstetric fistula is a must.

teaching materials (see Annexes)
The short notes/checklist on VVF has be been updated. The surgical handbook on VVF-surgery will probably published next year.

conclusion
For Kano State and Katsina State a functioning VVF-service has been established including a training programme for doctors from all over Nigeria.
Time has come now to expand the programme, first to the other States of (Northern) Nigeria and then to the rest of (West) Africa.
It would be a pity if all the experience/expertise in VVF-care and training obtained during the last 10 years would not be used.

P.S.
what about the rest of the 1,5-2 million VVF-patients in Africa?

an International Obstetric Fistula Foundation is long overdue!!!
First an awareness campaign has te be started in the industrialized world, then a plan has to be developed (already present in principle since 1989) followed by a fund-raising campaign, and as last step this plan has to be executed under a big organization like the United Nations with continuous monitoring of the activities and results.

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KANO

with due respect to all the others (see acknowledgment) special thanks have to go to:

Mrs Amina SAMBO in KANO for coordinating the activities within Nigeria

Dr Paul ONG in TIEL for coordinating the activities in Holland and hopefully in getting off ground an International Obstetric Fistula Foundation

My dear friend Dr Yusha'u ARMIYA'U in KATSINA for all the thing he has done

Mrs Brigitte GEISLER in KLEVE for supporting every move I make

annex I

list of trainees

general doctors with at least 3 yr surgical experience

Dr Abdu ADO	Katsina State
Dr Said AHMED	Jigawa State
Dr Yusha'u ARMIYA'U	Katsina State
Dr Shehu BALA	Katsina State
Dr Umaru DIKKO	Kano State
Dr Benedict ISHAKU	Plateau State
Dr Momoh Omuya KADIR	Kogi State
Dr Hassan LADAN	Kebbi State
Dr Gamaliel Chris MONDAY	Plateau State
Dr Ibrahim MUHAMMAD	Jigawa State
Dr Dunawatuwa A.M. MUNA	Borno State
Dr Aminu SAFANA	Katsina State
Dr (Mrs) Yalwa USMAN	Kano State
Dr Munkaila YUSUF	Kano State
Dr Iliyasu ZUBAIRU	Adamawa State

senior registrars

Dr Yomi AJAYI	IBADAN
Dr Nosa AMIENGHEME	ILE-IFE
Dr Lydia AUDU	SOKOTO
Dr Ini ENANG	ZARIA
Dr Nestor INIMGBA	PORTHARCOURT
Dr Jesse Yafi OBED	MAIDUGURI
Dr Dapo SOTILOYE	ILORIN
Dr Emmanuel UDOEYOP	JOS
Dr (Mrs) Marhyya ZAYYAN	KADUNA

residents in anesthesia

Dr Abdulmummuni IBRAHIM	Katsina State

visiting consultants

Prof Dr Shafiq AHMAD	PESHAWAR, Pakistan
Dr Frits DRIESSEN	NIJMEGEN, Holland
Prof Dr Jelte DE HAAN	MAASTRICHT, Holland
Dr Vivian HIRDMAN	STOCKHOLM, Sweden
Dr Oladosu OJENGBEDE	IBADAN, Nigeria
Dr Ulrich WENDEL	MAIDUGURI, Nigeria

annex II

VVF/RVF-repairs in Babbar Ruga and Laure Fistula Centers

	KANO		KATSINA		grand total
	VVF	RVF	VVF	RVF	
1984	-	-	83	6	89
1985	-	-	196	20	216
1986	-	-	260	18	278
1987	-	-	318	7	325
1988	-	-	353	31	384
1989	-	-	464	21	485
1990	222	25	416	29	692
1991*	248	17	195	4	464*
1992	348	27	529	34	938
1993	416	35	488	62	1,001
total	1,234	104	3,302	232	**4,872**

total VVF-repairs and related operations: **4,536**

total RVF-repairs and related operations: **336**

total: 4,872

success rate at **VVF** closure roughly **90%** per operation

success rate at **RVF** closure roughly **75%** per operation

* sabbatical leave consultant for 6 mth

the immediate surgical management of fresh obstetric fistulas with catheter and/or early closure

by

Kees WAALDIJK

abstract

Objective: to determine prospectively if the immediate surgical management of obstetric fistulas within the first 3 months by catheter and/or early closure is effective.
Methods: During a 10-month period (August 1992 through May 1993), a total of 170 patients with an obstetric fistula of less than 3 months duration were treated. A catheter was inserted if the fistula was necrotic, and as soon as the fistula edge was clean an early closure was performed unless the fistula had healed already.
Results: The fistula was closed in 156 (91.8%) of the 170 consecutive patients: with continence in 146 (93.6%), minimal/mild incontinence in 7 (4.5%) and severe incontinence in 3 (1.9%) of the closed fistulas. In 14 patients (8.2%) the fistula was not closed at first intention; however, 12 were closed at second attempt.
Conclusion: The immediate surgical management proved highly effective in terms of closure and continence.

introduction

It is a generally accepted rule to wait with the repair of an obstetric vesicovaginal fistula (VVF) for a minimum period of 3 months until all the tissue reactions have subsided [1-6].
The sheer number of patients coming to the fistula hospitals in KANO and KATSINA in Northern Nigeria, more than 1,000 a year nowadays, forced the author to look for different ways to treat the fresh obstetric fistula patients.
First, 1) the insertion of an indwelling bladder catheter promoted the spontaneous healing of the smaller fistulas, i.e. up to 2 cm diameter in size, in some 50-60% of the patients [7].
Slowly step-by-step this catheter treatment was improved further by 2) adaptation of the fistula edge (at first one suture only, later more sutures if needed), 3) freshening of the edge and everting closure of the anterior vagina wall, and 4) freshening, minimal dissection and everting closure of the anterior vagina wall. At each step the success rate improved, and also larger fistulas could be treated.
Logically, the latest development was 5) to perform a "full" repair as soon as the slough had disappeared as described in this prospective study, irrespective of size and location of the fistula.

materials and methods

During the 10-month period from August 1992 through May 1993 a total of 170 patients with a fresh obstetric fistula of less than 3-month duration were treated.
At first presentation of the patient an extensive history was taken and a vaginal examination performed together with an assessment of her general condition and of other lesions due to obstructed labor.
The age of the patients ranged from 13 to 41 years, the height of the patients varied from 137 to 172 cm, and the parity of the patients varied from I to XV.
Twenty patients (11.8%) presented with a rectovaginal fistula (RVF) as well. Twenty-eight patients (16.5%) had other vaginal lesions like stenosis, shortening, stricture or pubococcygeus muscle loss.

In 105 patients (61.8%) signs of uni- or bilateral peroneus nerve trauma were found, ranging from 0 (no function at all) to 4 (minimal function loss) on the Medical Research Council scale. Six patients could not stand or walk but were only crawling.
The duration of leakage at catheter if healed by catheter only or at repair if not healed by catheter ranged from 6 up to 75 days, see Table 1.

Table 1
duration of leakage in days at catheter/surgery

	0-15	16-30	31-45	46-60	61-75	total
no.	19	56	44	33	18	170
in %	11.2%	32.9%	25.9%	19.4%	19.4%	100%

The fistulas were divided into 6 types according to the following classification as used by the author in all vesicovaginal fistulas [7,8], see Table 2.

Table 2
classification of fistulas
according to anatomic/physiologic location

	I	IIAa	IIAb	IIBa	IIBb	III	total
no.	30	95	42	3	-	-	170
in %	17.6%	55.9%	24.7%	1.8%	-	-	100%

I fistulas not involving closing mechanism
II fistulas involving closing mechanism
- **A** without (sub)total urethra floor loss
  - **a** without circumferential defect
  - **b** with circumferential defect
- **B** with (sub)total urethra floor loss
  - **a** without circumferential defect
  - **b** with circumferential defect

III miscellaneous, e.g. ureter and other exceptional fistulas

The size of the fistulas, as measured between fully relaxed and fully stretched, varied from 0.1 cm to 8 cm, as presented in Table 3.

Table 3
fistula size in cm

	≤1	1	2	3	4	5	≥6	total
no.	21	46	44	21	22	7	9	170
in %	12.4%	27.1%	25.9%	12.4%	12.9%	4.1%	5.3%	100%

The surgical management of these fistulas was as follows.
When there was still necrosis, a FOLEY catheter Ch 18 or 20 was inserted and the patient instructed to drink as much as possible.
The patient was examined further once a week to determine the prospects of spontaneous healing or surgery.
If the fistula had healed already by catheter as confirmed by the instillation of gentian violet into the bladder and making surgery superfluous the catheter was left in for 2 more weeks before it was removed.
Of the 170 patients, this happened in 21 patients.
If it had not healed by catheter, as soon as the slough had disappeared and the fistula edge was clean, she was considered to be a candidate for early closure.

The patient was placed upon the operation table in the exaggerated lithotomy position with the legs flexed and slightly abducted in stirrups; exactly the same as for a VVF-repair. An AUVARD weighted speculum was inserted into the vagina, and a careful examination made and a classification done. The fistula edge was freshened and a minimal dissection of anterior vagina wall from bladder/urethra performed. The bladder/urethra was closed, most of the time transversely, with a single layer of interrupted inverting chromic catgut 00. The anterior vagina wall was closed with interrupted everting chromic catgut 0 and supramid 0 taking very good bites. The bladder capacity was estimated by measuring the distance from the external urethra opening onto the bladder wall by a calibrated sound. A FOLEY catheter Ch 18 or 20 was inserted and the urethra lenghth measured by taking the distance from the external urethra opening onto the balloon. Also the elevation of the bladder neck was estimated. A loose vagina pack soaked in acriflavine was inserted for 24 hours and the procedure ended. No check on closure by intravesical gentian violet was made. She was admitted to the postoperative ward only for 1 night, and then transferred to the hostel where she was treated as an outpatient.
Of the 170 patients, 124 were treated this way
If it was too complicated or if the patient could not stand the insertion of the AUVARD speculum, she was prepared for a VVF-repair under spinal anesthesia the following day, i.e. if her general condition was alright; otherwise she had to wait until her general condition had improved. These patients were kept in the postoperative ward for 14 days and then discharged to the hostel.
Of the 170 patients, 46 were treated this way.
Each patient was instructed to drink as much as possible to produce a minimum of 4000 ml of urine per 24 hr, and to report immediately when the catheter got blocked. No uroseptics or antibiotics were given. She had to report once a week as to leakage and then she was instructed again to drink as much as possible. When the catheter got blocked it was flushed or changed for another one. After 4 weeks the catheter was removed and the patient instructed to pass urine immediately and frequently. One week later the supramid sutures were removed, and a careful assessment performed as to healing and continence. If the fistula had healed she had to report regularly for check-up till 6 mth postoperatively before she was allowed to resume sexual activities. At each check-up the patient was asked systematically about subjective leakage, incontinence and micturition. Then she was examined vaginally for healing, incontinence and elevation of the bladder neck/urethra. Only if in doubt or when there was a discongruence between the subjective feelings and objective findings a dye test was performed by the instillation of gentian violet into the bladder. If it had not healed she was prepared for a VVF-repair under spinal anesthesia.

results

In 156 (91.8%) out of the 170 patients the fistula was closed, and 146 (93.6%) of these patients were continent as well, see Table 4.

Table 4

outcome as to closure/continence in 170 consecutive procedures

	closure achieved		**incontinence/closed**			**total**
	yes	**no**	**mild**	**severe**	**total**	
no.	156	14	7	3	10	170
in %	91.8%	8.2%	4.5%	1.9%	6.4%	100%

A further analysis revealed the following closure rate for the different fistulas: 29 (96.7%) of the 30 type I fistulas, 90 (94.7%) of the 95 type IIAa fistulas, 34 (81.0%) of the 42 type IIAb fistulas and all 3 type IIBa fistulas.

Factors which might have contributed to failure were listed in Table 5 together with the size of the fistula before closure and later on. Not a single fistula was larger after failure.

Table 5
factors which might have contributed to failure; end result

pat	RVF	type	duration in days	size in cm before	residual
cath 94		IIAa	27	4	0.2
cath 108		IIAb	24	4	4
cath 114	+	IIAb	59	2.5	1
cath 149		IIAa	32	3	0.5
cath 153		IIAb	39	3	0.5
cath 162		IIAa	19	1.5	1
cath 186	+	IIAb	30	4	1
cath 281	+	IIAa	21	4	0.5
cath 284		I	9	3	0.5
cath 294		IIAa	34	1	1
cath 314		IIAb	60	2	1
VVF 2118	+	IIAb	65	6	0.5
VVF 2162		IIAb	57	4	0.1
VVF 2293	+	IIAb	60	6	0.2

A further analysis of the 10 patients with a closed fistula and incontinence revealed the following incontinence rate for the different fistulas: none of the 29 type I fistulas, 6 (6.7%) of the 90 type IIAa fistulas, 4 (11.8%) of the 34 type IIAb fistulas and none of the 3 type IIBa fistulas, see Table 6.

Table 6
subjective/objective incontinence in the 156 closed fistulas

pat	subjective	objective	size	type	duration
cath 105	±	±	3 cm	IIAa	26 days
cath 123	++	+	2 cm	IIAa	29 days
cath 154	no	++	1.5 cm	IIAa	60 days
cath 196	leaking	++	6 cm	IIAb	65 days
cath 197	leaking	++	6 cm	IIAb	40 days
cath 308	±	±	4 cm	IIAa	16 days
cath 333	++	++	2.5 cm	IIAb	36 days
VVF 434	leaking	++	4 cm	IIAb	51 days
VVF 542	no	±	1 cm	IIAa	54 days
VVF 2125	±	±	5 cm	IIAa	34 days

no = no incontinence; ++ = minimal; ± = mild; + = moderate; ++ = severe

Only three patients, all with type IIAb fistula, complained about severe incontinence to the point of leaking; the other 7 patients with minimal to mild incontinence were not bothered by it, and even 2 patients denied it.
In 21 patients (12.4%) the fistula had healed by insertion of catheter only making surgery superfluous.
Not a single patient developed wound infection, serious ascending urinary tract infection or systemic infection.
Mortality was not encountered.
In 12 of the 14 patients in whom the early closure failed the fistula was closed by a second operation, whilst the other 2 patients have not yet returned; making the overall closure rate 168 (98.8%) of 170 within the first 6 months.

discussion

This is the first time a systematic prospective study has been made to an immediate surgical intervention in fresh obstetric fistulas.

It means a change from a passive attitude of waiting 3 months to an active surgical strategy as soon as the patient enters the hospital.

Its main advantage is not only the high success rate, but especially the prevention of the girl/woman from being ostacized out of her own society.

It also is a stimulation for patients to come early forward for treatment, and for doctors to refer patients immediately.

The whole procedure without anesthesia did not take more than 20-25 min and no special preoperative preparations were necessary. The nice thing was that the patient came "walking" into the operation theater and after 25 min left it "walking" as well. Also the general condition of the patient did not interfere with the procedure.

The only things needed were a pair of gloves, a disinfectant like savlon, an AUVARD speculum, a tissue forceps, a scalpel with blade No 11 or 16, a pair of slightly curved THOREK scissors, a needle and needle holder, some gauze, (non)absorbable suturing material, a calibrated metal sound, a FOLEY catheter Ch 18 or 20 and acriflavine. Special instruments or atraumatic suturing materials were not required.

The procedure is very simple, but it requires ample experience in vaginal surgery and especially in normal VVF-surgery. It could be taught easily to all kinds of doctors by an experienced fistula surgeon, but it is not a procedure to be undertaken by paramedical personnel.

No special pre-, intra- and post-"operative" monitoring is required. This procedure was also successfully performed in a 60-yr-old woman with a minute fistula of 25-yr duration who had had a cerebrovascular accident and was not fit for any type of anesthesia (not included in this series).

It could be done without anesthesia as most of the patients did not feel very much and had been instructed that it might be uncomfortable. To give spinal anesthesia was considered to make the procedure unnecessarily complicated; as well it might have been a risk as the general condition of many patients was not optimal. Six patients could not stand or walk, but were only crawling at time of repair.

However, if it was noted upon insertion of the AUVARD speculum that the patient was not cooperative or if it was too complicated, immediately a decision was taken to perform a VVF-repair under spinal anesthesia as soon as the general condition was satisfactory.

Antibiotics were not given routinely as the fistula is caused by necrosis and not by infection; also the high urine output will prevent ascending infection. Wound infection or general sepsis was not noted in all these patients. It is better to spend the little amount of money available on a high protein diet and oral hematinics (folic acid and ferrous sulfate) than to waste it upon expensive antibiotics.

A circumferential fistula or the combination with a RVF is no contraindication though it may influence the outcome as to closure and continence.

The high success rate of the immediate surgical management of fresh obstetric fistulas is comparable to, though slightly better than, that of normal VVF-repairs at first intention by the same surgeon in the same hospitals (sofar some 4,500 procedures in 4,000 patients). It is far better than the 80% closure rate, after the traditional waiting period of 3 months, LAWSON claims a reasonably practised and versatile operator ought be able to achieve at first attempt and a further 10% by a second operation [9].

Theoretically, it falls within the time of the physiologic wound healing processes, before fibrosis and scarring develop. This might account for the low incontinence rate.

It has become the standard outpatient treatment of VVF-patients leaking less than 3 months whatever the cause.

The only exeption is when the fistula is too complicated and the general health of the patient does not allow spinal anesthesia.

Three patients with very poor condition in whom a catheter was inserted died within 2-3 days of admission before anything else could be undertaken, and were excluded from this study.

conclusion

This procedure is simple, fast, safe, effective, easy to learn and cheap, and can be applied under primitive conditions on an outpatient base. That is exactly what is required in developing Africa with an annual incidence of at least 50,000 to 100,000 new obstetric fistula patients.

recommendation

From this study the following recommendations can be made. Any woman who develops an obstetric fistula should have a catheter. Then as soon as the slough has disappeared and the fistula is clean an early repair should be performed unless the fistula is healed already.

kees waaldijk MD PhD 15th december 1993
chief consultant surgeon

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justification

As some people have criticized and others will criticize the procedure without anesthesia the author gives the following justification:
Only some 30% of the world population have access to sophisticated medical facilities; this does not mean that the other 70% do not have the right to medical-surgical care, within their own limited facilities.
Not everybody is so lucky to have an anesthetist. In the whole of Katsina State, 24,000 sq km with 4 million people, there is not a single consultant anesthetist present.
This procedure is not something out of the blue, but the last logical step in developing a surgical management in fresh obstetric fistulas. Since 1984 over 550 fresh obstetric fistula patients were treated: first by catheter only, then by catheter and adaptation (at first only 1 suture), then by freshening, adaptation and catheter, then by freshening, minimal dissection and adaptation, and as last step a "full" repair.
During this development (from one suture to a "full" repair) it was noted, **surprisingly!**, that most patients experienced no pain at all or only little pain; is seems that the anterior vagina wall is almost anesthetic so early after delivery, with the possible exception of the paraurethral areas.
Before we start the patient is informed and instructed that it might be a bit painful, and then asked if she agrees yes or no. Only if she agrees do we procede. When it is noted that during insertion of speculum she is not cooperative we do not proceded and stop immediately. Also before anything (freshening) is done the pain sensitivity of the anterior vagina wall is tested by surgical forceps. If this is painful we stop it as well. During the whole procedure one of the theater nurses is speaking constantly with the patient to distract her mind. Probably the most discomforting thing is that they may feel pain in the legs due to the the akward position on the operation table.
There is **no** postoperative pain so no analgesics are needed postoperatively like in patients operated under anesthesia. When the procedure has ended they are totally pain free and have forgotten everything. Also there is no chance of developing postspinal headache which troubles the other patients. Another advantage is that they are mobilized immediately and can be treated as outpatients under low care.
Also a very poor general condition is no contraindication. Patients who cannot stand or walk can be treated immediately. It seems that the more extensive the trauma/damage the less they feel, except for pain in the legs.
All in all the author is of the opinion that the benefits of this procedure outweigh its only disadvantage that the patient may experience some pain.

fistula classification

VVF

the following classification of VVF, as developed during a **PhD study at the University of Utrectht in 1989**, is presented according to its anatomic/physiologic location with regards to operation technic and prognosis:

- **I** fistulas not involving the closing mechanism
- **II** fistulas involving the closing mechanism
  - **A** without (sub)total urethra loss
    - **a** without a circumferential defect
    - **b** with a circumferential defect
  - **B** with (sub)total urethra loss
    - **a** without a circumferential defect
    - **b** with a circumferential defect
- **III** ureterovaginal and other exceptional fistulas

one of the major problems of VVF-surgery is the development of postoperative urinary incontinence

there is the problem of atonic bladder with overflow incontinence following obstructed labor.

following a successful VVF-repair at following "obstructed" labor a UV-stricture may develop with also overflow incontinence

all these patients consider themselves as fistula patients, and the cause of their "leaking" is obstetric or fistula

therefore **incontinence** has been included as well in the figures

all types require their own special surgical technic, and the prognosis as to closure and incontinence worsens progressively from type I through IIBb

in the first 700 VVF-patients and the first 100 VVF-catheter patients in KATSINA a circumferential defect was not systematically looked for

first, the figures are given for the major groups I, IIA + IIB, III and incontinence for all patients

then, the figures are given for type I, IIAa + IIAb, IIBa + IIBb, III and incontinence from VVF-patient 701 and VVF-catheter patient 101 onwards

RVF

the author is still working on a suitable classification of RVF, but things are not that clear here and the number of RVF-patients is limited; also the sphincter ani trauma is important as well as fixation to cervix/promontory, rectum stricture etc

therefore no figures on RVF are given

fistula type

patients	I	IIA IIB	III	inc
katsina-vvf				
1-100	41	49 + 10		
101-200	34	54 + 11		1
201-300	23	69 + 8		
301-400	28	60 + 10		2
401-500	28	54 + 17		1
501-600	20	66 + 11		3
601-700	25	69 + 5		1
701-800	17	76 + 7		
801-900	25	65 + 7		3
901-1000	17	73 + 5		5
1001-1100	24	60 + 9		7
1101-1200	17	57 + 16		10
1201-1300	17	72 + 6	1	4
1301-1400	19	69 + 7	1	4
1401-1500	23	63 + 4	4	6
1501-1600	21	68 + 8	2	1
1601-1700	12	76 + 8	1	3
kano-vvf				
1-100	16	60 + 15	2	7
101-200	19	69 + 9		3
201-300	14	70 + 9		7
301-400	16	73 + 8	1	2
katsina-catheter				
1-100	29	38 + 1		32
101-200	23	60		17
201-300	21	60 + 2		17
kano-catheter				
1-100	14	63 + 1		22

	fistula type				
patients	**I**	**IIAa IIAb**	**IIBa IIBb**	**III**	**inc**
katsina-vvf					
701-800	17	36 + 40	6 + 1		
801-900	25	42 + 23	5 + 2		3
901-1000	17	36 + 37	4 + 1		5
1001-1100	24	38 + 22	4 + 5		7
1101-1200	17	32 + 25	9 + 7		10
1201-1300	17	34 + 38	4 + 2	1	4
1301-1400	19	35 + 34	3 + 4	1	4
1401-1500	23	43 + 20	2 + 2	4	6
1501-1600	21	39 + 29	5 + 3	2	1
1601-1700	12	39 + 37	4 + 4	1	3
kano-vvf					
1-100	16	44 + 16	11 + 4	2	7
101-200	19	41 + 28	6 + 3		3
201-300	14	30 + 40	6 + 3		7
301-400	16	32 + 41	4 + 4	1	2
katsina-catheter					
101-200	23	51 + 9			17
201-300	21	48 + 12	2		17
kano-catheter					
1-100	14	51 + 12	1		22

fistula type
total figures per VVF-repair and VVF-catheter

total	**I**	**IIA IIB**	**III**	**inc**	
vvf-repair					
2100	456	1372 + 190	12	70	
in %	**21.7%**	**65.3% + 9.0%**	**0.6%**	**3.3%**	**%**
vvf-catheter					
400	87	221 + 4		88	
in %	**21.8%**	**55.3% + 1.0%**		**22.0%**	**%**

fistula type
total figures per VVF-repair and VVF-catheter

total	**I**	**IIAa IIAb**	**IIBa IIBb**	**III**	**inc**	
vvf-repair						
1400	257	521 + 430	73 + 45	12	62	
in %	**18.4**	**37.2 + 30.7**	**5.2 + 3.2**	**0.9**	**4.4**	**%**
vvf-catheter						
300	58	150 + 33	3		56	
in %	**19.3**	**50.0 + 11.0**	**1.0**		**18.7**	**%**

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