national vvf project nigeria

evaluation report XII

1997

reprint

Babbar Ruga Fistula Hospital
KATSINA

Laure Fistula Center
KANO

Maryam Abacha Hospital
SOKOTO

General Hospital
HADEJIA

Special Fistula Center
BIRNIN KEBBI

and

Centre Hospitalier Departemental
MARADI

kees waaldijk MD PhD
chief consultant surgeon

reprint

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paris

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VVF-projects

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XIIth evaluation report
VVF-projects BIRNIN KEBBI/HADEJIA/KANO/KATSINA/SOKOTO/MARADI

introduction

Politics have come to play a major role in the VVF campaign which in itself is a good thing, i.e. as long as there is progress and we as professionals can implement our programme.

Since July 1996 the programme consists of 5 VVF-centers in Northern Nigeria and 1 VVF-Center in Southern Republique du Niger, and arrangements for further expansion have been made.

In a major effort to visit all the centers at least once every two weeks we have to drive 6,000-7,000 km each month on long, rough and dangerous roads. We suffer from the heat and suffocate from the dust, but at least the UNDP car with official FG number plates is not stopped at road blocks and check points.

In SOKOTO the new center Maryam ABACHA Hospital for Women and Children was opened in July 1997. After a 2-week period of advertising by radio jingles **more than 350 new patients came forward** for treatment. They invaded the hospital compound which is overcrowded since it was opened. Among them are patients who are leaking over 50! years who did not know something could be done.

Dr Said AHMED did very well since he started last year in HADEJIA in Jigawa State. Due to his efforts the number of patients coming to KANO for surgery are decreasing, at least for the moment.

The B/KEBBI center needs upgrading, especially of the equipment and staff. Dr Hassan WARA came for further training.

It seems that the National Foundation on VesicoVaginal Fistula is not able to support the programme anymore due to lack of funds and politics. During the last 2 years not a single kobo has come our way.

At last, two new SEWARD operating tables have arrived, one in KANO donated by the Irish Government and one in KATSINA donated by the Dutch Government. However, we are still waiting for the appliances before we can start using them.

It is very difficult to make patients do themselves something for their own health as they do not understand that certain conditions, such as urge incontinence, cannot be relieved by surgery but only by strict bladder drill.

expansion

We plan to extend our service to ZARIA in Kaduna State and to GUSAU in Zamfara State early next year.
After his first training period, Dr Djangnikpo LUCIEN was transferred from MARADI to ZINDER and he would like us to come there as well. This will take time as there are quite some formalities to be be finalized between Katsina State and Departement du Zinder. As well it cannot be on a regular base but perhaps in the form of a workshop.

long-term objectives

To establish a lasting VVF-service with ultimately the total eradication of the obstetric fistula.

lasting VVF-service

In KANO and KATSINA a VVF-repair service with training of doctors and nurses has been established. In SOKOTO and HADEJIA we are consolidating the service whilst B/KEBBI needs upgrading.

Dr Ann WARD is doing a fine job in Akwa Ibom State; the same applies to Dr Jonathan KARSHIMA who is working in Plateau State.

Those centers are capable of dealing with VVF as a public health problem in these 7 states.

As part of a bilateral agreement also a VVF-repair service has been started in neighboring Republiqe du Niger in MARADI.

prevention

There is no relation to tribe, religion, culture, early marriage or anything else, except for **early intervention by CS within 3 hours**.

This can only be achieved by setting up proper antenatal and obstetric care i.e. **a network of 75,000 functioning obstetric clinics thoughout Africa!!**

As such total eradication of the obstetric fistula will be a utopia for at least 50 years to come.

short-term objectives

To further upgrade/develop the Babbar Ruga Fistula Hospital in KATSINA and Laure Fistula Center in KANO into (inter)national VVF-training centers, and to start new VVF-repair centers. Each of the 37 states of the Federation of Nigeria should have its own center.

KATSINA

Since a **fistularium** is the last thing needed in a public health programme, some 20-30 patients (fistula closed but severe urge/stress incontinence for which nothing could be done) who for years were living in the hostel and considered this as their home have been discharged. Though we pity them, somehow they have to find their own way in life. They will come back but we shall stick to the principle that it is only a temporary stay. A vocational training programme is planned to help them.

facilities

A guesthouse for the trainees has been constructed but it needs furnishing.

capacity

The theoretic capacity of 1,000 operations a year is more than sufficient.

international training center

We are completely set and fit now to train different cadres of doctors/nurses from all over Africa.

service

The fistula surgery/training service is well established.

KANO

facilities

The 50-bed Kwalli Hostel is situated 2 km away outside the hospital in KANO town; it needs a total refurbishing.

As NEPA is unreliable a small 7.5 kVA standby generator for the theater is needed to ensure that we can operate at all times. Otherwise the electric autoclave cannot be used for sterilizing.

capacity

The theoretic capacity of 1,000 operations a year is more than sufficient.

training center

The training of Nigerian doctors is doing fine.

service

The fistula surgery/training service is well established.

SOKOTO

facilities

The new Maryam ABACHA Hospital, built under Family Support Programmme, is of high quality and well equipped. The two operation theaters are o.k. with fine operating tables and bright light.

The VVF activities have been shifted from Jummai Fistula Center to this new place. This can be considered as a breakthrough in our programme.

capacity

The theoretic capacity of 1,000-1,500 operations a year is more than sufficient, once the backlog has been cleared.

service

The service was started in 1994 and for the moment is running fine. We have to make a major effort to clear the backlog. Therefore since August we have started to visit this center once every two weeks and shall do so until it is under control. As our time is limited we also intensified our operation programme aiming at some 8 repairs a day the record being 9 VVF-repairs and 3 RVF-repairs in 9 patients in one single day. Next year we shall start to operate on two tables simultaneously.

The first priority is to train an indigenous Sokoto surgeon to take care of the day-to-day well-being of the patients. However, there are few available and their interest seems to be low.

BIRNIN KEBBI

Due to lack of doctors in Kebbi State, Dr Hassan WARA has to divert his attention to 2 more hospitals.

To improve the service Dr WARA attended another 2-mth training course and 5 nurses were trained as well.

However, the center needs quite some upgrading in terms of equipment and of personnel.

The number of operation could be increased once the service has improved.

HADEJIA

Dr Said AHMED gave an excellent report of his activities in the VVF unit of HADEJIA General Hospital.

Within the gynecologic ward 8 beds are reserved for fistula patients whilst surgery is performed in the minor operation theater.

Though a hostel is not available an impressive VVF-surgery service has been already established with over 200 VVF/RVF-repairs a year.

However, the unit needs quite some upgrading in terms of facilities, equipment and personnel.

We would like to start with training of the nurses.

Republique du Niger

MARADI

The gynecologic department within the Centre Departemental Hospitalier in MARADI is being utilized for the fistula work.

One of the main operation theaters with a good operation table and a good light is made available whenever we come.

As the gynecologic ward had to be renovated after the fire and since there was an almost continuous strike due to political instability, we could not visit the Centre as frequently as wished/planned.

A priority is to train the newly appointed consultant gynecologist as well as some of the nursing staff.

Still, since the service was started in January 1996, we are satisfied with the patient care.

As soon as the political problems have been solved, it will be the start of a VVF-programme within Republique du Niger.

further expansion throughout Africa
It would be a pity if all the expertise gained sofar in (Northern) Nigeria would not be made available to the rest of (West) Africa, as the problem is all over Africa with 1.5-2 million VVF-patients waiting for surgery.
However, as all countries have a different culture/health structure it has to be a service especially designed for that specific country.
Republique du Niger seems to be a good starting point, specifically since it is a francophone country.
Introductory discussions were also held with the health expert of the Dutch Embassy in BAMAKO in Mali who will visit Northern Nigeria in March 1998 to find out if something can be done for Mali, Burkina Faso and Senegal.

The real problem is: which organization/foundation/government is able and willing to finance an all-Africa obstetric fistula project??

activities

postgraduate training (see Annex I)
It cannot be stressed enough that all the residents in obstetrics/gynecology throughout Africa need ample exposure to the VVF-problem; this should be part of their curriculum. We shall concentrate on their training as a priority: an initial one-month course. However, we cannot have more than two senior registrars at the same time, otherwise the stress upon the trainers will be too heavy.
In order to improve the patient care Dr Idris HALLIRU and the theater nurse Kabir K LAWAL will visit all the centers from time to time. They will give lectures about the theoretic background and about pre-, intra- and postoperative care. Then they will demonstrate this care in the preoperative ward, in the operation theater and in the postoperative ward. Also the importance of health education and patient counselling will be discussed. The duration will be 2-3 days, and it should be a continuous exercise.

general doctors/senior registrars/deputy surgeons/visiting consultants
Sofar, a total of **94 doctors** have been trained or attended our programmes: 45 doctors with at least 3-year surgical experience, 19 senior registrars in obstetrics/gynecology, 13 consultant surgeons/gynecologists, 15 deputy surgeons and 2 senior registrars in anesthesia.
A known performance of the trained doctors is demonstrated in Annex III.

surgeons in the centers
Dr Idris HALLIRU has been working for the last 2 years in B/RUGA Hospital; besides this he is the surgeon of the General Hospital in KATSINA.
Dr Immam AMIR has been working for 2 years in Laure Fistula Center; he is also working at the gynecologic department of Murtala Muhammad Specialist Hospital in KANO.
Dr Hassan WARA from the VVF Center in BIRNIN KEBBI attended our training programme twice.
Dr Said AHMED is the most experienced fistula surgeon: over 800 VVF/RVF-repairs with good result. First he worked 2 years in Laure Fistula Center, then he specialized for 4 years in Russia. In between and afterwards he was trained further in VVF surgery for at least another 2 months each time. Now he is i/c of the General Hospital in HADEJIA and is running a fine fistula programme.
In SOKOTO and in MARADI there is no fistula surgeon available. That will be the first priority.

(theater) nurses/midwives
A total of **72** nurses from all over the Federation of Nigeria attended and completed the course(s); as well as **2** nurses from Republique du Niger and **2** nurses from Sierra Leone.

paramedicals
Also a medical anthropologist and a physiotherapist attended the programme for a period of 3 months.

surgery (see Annex II)
It is mainly due to the efforts of Dr Said AHMED that we could increase our surgical output by almost 20%.
During 1997 a total of **1,465** VVF/RVF-repairs were performed: in B/KEBBI 107 VVF- and 2 RVF-repairs, in HADEJIA 211 VVF- and 4 RVF-repairs, in KANO 295 VVF- and 38 RVF-repairs, in KATSINA 513 VVF- and 55 RVF-repairs, in SOKOTO 181 VVF- and 14 RVF-repairs and in MARADI 43 VVF- and 2 RVF-repairs.
During the last 5 years an average of 1,183 VVF/RVF-repairs a year could be performed against an overall average of 700 since we started.
Though we are very proud of this achievement, it is **not even up to 1% of what is really needed** considering the 1.5-2 million patients who are waiting desperately for an operation.
Since the beginning of the project in 1984, a **grand total of 9,788 VVF/RVF-repairs and related operations** have been performed.

research

generally
Almost all problems related to VVF-surgery have been solved except postoperative urge incontinence due to detrusor instability. However, all our surgical techniques are changing in order to continuously improve our work.
The intention has been and still is: **make complicated things simple, effective, feasible, safe and payable under primitive circumstances!**

VVF-surgery
immediate surgical management; by means of catheter and/or early closure
Our **standard** treatment for patients with a fistula duration of less than 3 months can be recommended to any fistula surgeon.
Already some **1,200 patients** have been treated with a **success rate of almost 95%!**
Immediate bladder catheterization with ample oral fluid intake is a must, and **426** patients were cured by catheter treatment only.

RVF-surgery
sphincter ani rupture
The technique for sphincter ani rupture (with or without rectum trauma) has been simplified to a **mini-invasive procedure** with excellent results.

RVF-repair
Several techniques have been simplified with good results.

spinal anesthesia
Out of over 9,500 procedures, there was only one fatal complication directly due to spinal anesthesia, viz. total spinal block. However, this is one too many and could have been prevented if the organization at that time had been better.

external funds

It is only due to a grant from the SK Foundation in combination with the TTT Foundation that we are able to travel from KATSINA to KANO/SOKOTO/MARADI/BIRNIN KEBBI and back to KATSINA and that we can provide for things like spinal anesthetic agents, suturing material, needles, scalpels, gauze etc.; and .. the training programme is sponsored by them. Also the Wereldwinkel in MAASTRICHT is helping out.

The SK Foundation has even extended their help to a more structural aid in order to expand the surgery programme in Nigeria.
SIMAVI is sponsoring a project to produce video tapes of the different operation techniques; a digital video camera has been donated.

VVF-tourism

It is very naive, or perhaps adventurous, for surgeons from the industrialized world to think that they know how to handle the obstetric fistula in the developing world without appropriate exposure/experience/training. Being a fine surgeon in the USA or Europe or Japan does not mean that automatically one is a good fistula surgeon in Africa.
Recently a team of these fine surgeons (consisting of a general surgeon, gynecologist, urologist, plastic surgeon, anesthetist etc. and coming from a University Hospital) operated upon 32 fistula patients without having the slightest clue, favoring the abdominal approach.
Operation time varied from 2 to 7 hours!, 1 patient died almost immediately after operation, 30 are still leaking and 1 is cured (by ureterosigmoidostomy!): not something to be very proud of by academic or any standard.
Anything in life has to be learned!

conclusion

Slowly the project is improving and expanding in terms of awareness, surgery, training and centers.
The **obstetric fistula as a public health problem** is handled in 7 out of the 37 states of Nigeria; serving 20% of the population.
In Kano State and Katsina State a VVF-repair and -training service has been established. The new VVF-center in Sokoto State is functioning well, Jigawa State is doing fine and Kebbi State needs upgrading.
In Plateau State Dr J KARSHIMA is running a fine center whilst in Southern Nigeria Dr Ann WARD is doing an excellent job in Akwa Ibom State.
Kaduna State and Zamfara State will be the next targets; arrangements have been made already to start early 1998.
The service in MARADI in Republique du Niger is doing well considering the multitude of problems: crossing the border, fire, transfer of surgeon and political instability with strikes. The patient care is fine.

P.S.
what about the rest of the 1,5-2 million VVF-patients in Africa? and .....
which organization/foundation/government is willing to finance the project?
an International Obstetric Fistula Foundation is long overdue!!!

Kees WAALDIJK, MD PhD
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KATSINA
N i g e r i a

list of trainees

present surgeons

Dr Immam AMIR	Laure Fistula Center, KANO
Dr Idris HALLIRU	Babbar Ruga Fistula Hospital, KATSINA
none	Maryama Abacha Hospital, SOKOTO
Dr Hassan Ladan WARA	VVF Center, B/KEBBI
Dr Said AHMED	General Hospital, HADEJIA
none	Centre Hospitalier Departemental, MARADI

past surgeons

Dr Yusha'u ARMIYA'U	Babbar Ruga Fistula Hospital, KATSINA
Dr Shehu BALA	
Dr Jabir MOHAMMED	
Dr Aminu SAFANA	
Dr Isah Ibrahim SHAFI'I	
Dr Idris S ABUBAKAR	Laure Fistula Center, KANO
Dr Said AHMED	
Dr Umaru DIKKO	
Dr Iliyasu ZUBAIRU	
Dr Bello Samaila CHAFE	Jummai Fistula Center, SOKOTO
Dr Djangnikpo LUCIEN	Centre Hospitalier Departemental, MARADI

general doctors with at least 3 yr surgical experience

Dr Garba Mairiga ABDULKARIM	Borno State
Dr Umar Faruk ABDULMAJID	Katsina State
Dr Ibrahim ABDULWAHAB	Niger State
Dr Idris S. ABUBAKAR	Kano State
Dr Abdu ADO	Katsina State
Dr Mohammed I AHMAD	Jigawa State
Dr Said AHMED	Jigawa State
Dr Yusuf ALIYU	Kaduna State
Dr Immam AMIR	Kano State
Dr Ebenezer APAKE	Taraba State
Dr Yusha'u ARMIYA'U	Katsina State
Dr Shehu BALA	Katsina State
Dr Ibrahim BATURE	Zamfara State
Dr Bello Samaila CHAFE	Zamfara State
Dr Umaru DIKKO	Kano State
Dr Gyang DANTONG	Plateau State
Dr Bello I DOGONDAJI	Sokoto State
Dr James O. FAGBAYI	Kwara State
Dr Abdullahi Ahamed GADA	Sokoto State
Dr Gabriel HARUNA	Kaduna State
Dr Kabir Aliyu IBRAHIM	Jigawa State
Dr Saidu A. IBRAHIM	Jigawa State
Dr Haliru IDRIS	Katsina State
Dr Sa'ad IDRIS	Zamfara State
Dr Zubairu ILIYASU	Adamawa State
Dr Benedict ISHAKU	Plateau State
Dr Momoh Omuya KADIR	Kogi State
Dr Sabi'u LIADI	Katsina State
Dr Ado Kado MA'ARUF	Katsina State
Dr (Mrs) Linda MAMMAN	Adamawa State
Dr Umaru Mohammed MARU	Zamfara State
Dr Bako Abubakar MOHAMMED	Bauchi State

Dr Jabir MOHAMMED	Katsina State
Dr Gamaliel Chris MONDAY	Plateau State
Dr Ibrahim MUHAMMAD	Jigawa State
Dr Dunawatuwa A.M. MUNA	Borno State
Dr Yusuf Baba ONIMISI	Kano State
Dr Yusuf SAKA	Kwara State
Dr Aminu SAFANA	Katsina State
Dr Isah Ibrahim SHAFI'I	Kebbi State
Dr Aliyu SHETTIMA	Borno State
Dr (Mrs) Yalwa USMAN	Kano State
Dr Hassan Ladan WARA	Kebbi State
Dr Aqsom WARIGON	Adamawa State
Dr Munkaila YUSUF	Kano State

<u>senior registrars in obstetrics/gynecology</u>

Dr Oguntayo Olanrewaju ADEKUNLE	ZARIA
Dr Yomi AJAYI	IBADAN
Dr Francis AMAECHI	ENUGU
Dr Nosa AMIENGHEME	ILE-IFE
Dr Lydia AUDU	SOKOTO
Dr Ini ENANG	ZARIA
Dr Deborah HAGGAI	KADUNA
Dr Nestor INIMGBA	PORT HARCOURT
Dr Yusuf Mohammed KASIM	ILORIN
Dr Jesse Yafi OBED	MAIDUGURI
Dr Nworah OBIECHINA	ENUGU
Dr John OKOYE	ENUGU
Dr Benneth ONWUZURIKE	ENUGU
Dr Ishaya Chuwang PAM	JOS
Dr Abdullahi Jibril RANDAWA	ZARIA
Dr Mansur Suleiman SADIQ	KANO
Dr Dapo SOTILOYE	ABEOKUTA
Dr Emmanuel UDOEYOP	JOS
Dr (Mrs) Marhyya ZAYYAN	KADUNA

<u>senior registrars in anesthesia</u>

Dr Saidu BABAYO	Bauchi State
Dr Abdulmummuni IBRAHIM	Katsina State

<u>visiting consultants</u>

Prof Dr Shafiq AHMAD	PESHAWAR, Pakistan
Dr Said AHMED	HADEJIA, Nigeria
Dr BAKO	ZARIA, Nigeria
Dr Frits DRIESSEN	NIJMEGEN, Holland
Prof Dr Jelte DE HAAN	MAASTRICHT, Holland
Dr Vivian HIRDMAN	STOCKHOLM, Sweden
Dr Jonathan KARSHIMA	JOS, Nigeria
Dr Djangnikpo LUCIEN	MARADI, Niger
Prof Dr Oladosu OJENGBEDE	IBADAN, Nigeria
Dr Thomas J.I.P. RAASSEN	NAIROBI, Kenya
Dr Ruben A. ROSTAN	MASANGA, Sierra Leone
Dr Ulrich WENDEL	BESIGHEIM, Germany
Dr E.E. ZAKARIA	FUNTUA, Nigeria

<u>medical anthropologist</u>

Sandra BOER	AMSTERDAM, Holland

physiotherapists

Garba M FAGGE	Kano State

nurses

Mohammed B A ADAMU	Adamawa State
Rauta I BENNETT	Bauchi State
Hauwa D HERIJU	Borno State
Martha F MSHEH'A	
heresa INUSA	Kaduna State
Hajara S MUSA	
Sara SALEH	
Fatima A UMARU	
Alheri YAKUBU	
Herrietta ABDALLAH	Kano State
Florence AJAYI	
Esther AUDU	
Hauwa BELLO	
Sherifatu A JIMOH	
Ramatu DAGACHI	
Amina KABIR	
Kutaduku B MARAMA	
Hadiza MOHAMMED	
Mairo A MOHAMMED	
Mabel A OBAYEMI	
Comfort OYINLOYE	
Rabi RABI'U	
Amina UMARU	
Habiba A USMAN	
Hamisu ABDULLAHI	Katsina State
Adetutu S AJAGUN	
Magajiya ALIYU	
Taibat AMINU	
Hauwa GARBA	
Halima IBRAHIM	
Gambo LAWAL	
Kabir K LAWAL	
Ladi H MOHAMMED	
Halima I NOCK	
Saratu S SALEH	
Alia USMAN	
Aishatu M ANARUWA	Kebbi State
Safiya Isa MANGA	
Aishatu Y MOHAMMED	
Aishatu SAMBAWA	
Kulu A SHAMAKI	
Leah T AMGUTI	Kogi State
Hajara JOSEPH	Niger State
Dorcas NATHANIEL	
Hauwa TAUHID	
Rhoda T AGANA	Plateau State
Victoria S HARRI	
Lami PAN	
Esther ADAMU	Sokoto State
Beatrice AKINMADE	
Elizabeth Y GAJE	Yobe State

operation theater nurses

Mohammed B A ADAMU	Adamawa State
Dahiru HALIRU	Kaduna State
Florence AJAYI	Kano State
Mairo ALIYU	
Ramatu DAGACHI	
Hadiza ISAH	
Amina KABIR	
Hadiza MOHAMMED	
Rabi RABI'U	
Maijiddah SAIDU	
Hamisu ABDULLAHI	Katsina State
Adetutu S AJAGUN	
Taibat AMINU	
Saratu GAMBO	
Mohammed HASHIMU	
Halima IBRAHIM	
Gambo LAWAL	
Kabir K LAWAL	
Hauwa MAMMAN	
Faruk SAMBO	
Alia USMAN	

nurses/midwives from Republique du Niger

Zakari AYOUBA	MARADI
Maimouna Saidou BAGNA	

VVF/RVF-repairs in BIRNIN_KEBBI/HADEJIA/KANO/KATSINA/SOKOTO and MARADI centers

	B/KEBBI		HADEJIA		KANO		KATSINA		SOKOTO		MARADI		
	VVF	RVF	VVF	RVF	VVF	RVF	VVF	RVF	VVF	RVF	VVF	RVF	grand total
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
1994	-	-	-	-	373	43	496	45	42	-	-	-	999
1995	-	-	-	-	373	51	537	51	161	11	-	-	1,184
1996	41	-	86	-	311	37	562	60	98	5	66	2	1,268
1997	107	2	211	4	295	38	513	55	181	14	43	2	1,465
total	148	2	297	4	2,586	273	5,410	443	482	30	109	4	**9,788**

total VVF-repairs and related operations: **9,032**

total RVF-repairs and related operations: **756**

total: 9,788

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

success rate at **RVF** closure roughly **85%** per operation

success rate at **early closure** roughly **95%** per operation

healed by catheter only: **426**

wound infection rate: **< 0.5%**

postoperative mortality rate: **0.5-1%**

overall success rate (after one or more operations) at closure: **97-98%**

severe stress/urge incontinence rate after successful closure: **2-3%**

* sabbatical leave consultant for 6 mth

annex III

known performance of trainees

Dr Said AHMED	over 800 repairs
Dr Ilyasu ZUBAIRU	over 500 repairs
Dr Yusha'u ARMIYA'U	over 400 repairs
Dr Idris HALLIRU	over 200 repairs
Dr Jabir MOHAMMED	over 200 repairs
Dr Bello Samaila	over 200 repairs
Dr Immam AMIR	over 150 repairs
Dr Aminu SAFANA	over 150 repairs
Dr Hassan WARA	over 100 repairs
Dr Idris ABUBAKAR	over 100 repairs
Dr Isah I SHAFI'I	over 100 repairs

no data are available for the other trainees

presentation as guest speaker
at
IUGA congress
july 1997
amsterdam

the (surgical) management of the obstetric fistula

kees waaldijk MD PhD

introduction
Though the obstetric fistula has disappeared from the industrialized world it is still highly prevalent in the developing world, especially in Africa.
With an incidence rate of 2 per thousand deliveries where the mother survives when there is no easy access to a functioning obstetric service, there is an annual incidence of at least 50,000-100,000 new VVF-patients in Africa.
As only few patients are operated successfully there are a minimum of 1.5-2 million patients desperately waiting for an operation.
Considering the population explosion and the deterioration of health services in most countries, the prevalence will even increase.
As such the obstetric fistula poses a major public health problem and continues to be a challenge to present and future generations of surgeons, especially what to do under primitive conditions.

As it is not possible to tell everything within the context of this meeting, I shall restrict myself to **5** subjects: **I** general surgical management, **II** surgical research, **III** documentation, **IV** an evaluation of a major VVF-repair and -training project in Northern Nigeria and Southern Republique du Niger and **V** plans for the future

I general surgical management

<u>first visit</u>
complete history taking
general health
vaginal examination without anesthesia
other intravaginal lesions
other extravaginal lesions
systematic peroneal nerve testing

<u>early immediate management within the first 3 months</u>
catheter
debridement
early closure

<u>late management beyond the first 3 months</u>
surgical closure

<u>preoperative preparation</u>
as for all surgery

<u>anesthesia</u>
exclusively spinal anesthesia by 4 ml bupivacaine 0.5%

route of access
exclusively the vaginal approach
if necessary episiotomy: median, uni- or bilateral
position on the operation table
(exaggerated) lithotomy position with legs abducted/flexed in stirrups

instruments
Normal (long) vaginal surgery instruments are needed together with the following special instruments: a) an AUVARD weighted speculum for keeping the vagina open, b) long ALLIS clamps for picking up the vagina or bladder edges, c) a pair of sharply curved THOREK scissors for dissecting the anterior vagina wall from the bladder and d) a sharp DESCHAMPS aneurysm needle for fixation of the bladder, the bulbocavernosus graft and/or the anterior vagina wall onto the symphysis.
Besides, a complete well-functioning hydraulic operation table is of utmost importance and a must.

suturing materials
Normal chromic catgut and nonabsorbable skin sutures are needed. These can be bought in cassettes of 100 m and are cheap. Atraumatic suturing material is too expensive, the same applies to vicryl or dexon.

manpower
Fistula surgery is a one-man job, and all the operations are performed by the surgeon and one assistant who is doing the instrumentation; one retractor inside the vagina is already a crowd. More assistants are hindering the surgeon in his handling of instruments

examination
proper examination (**under anesthesia**) just before starting the operation
The patient is placed in the exaggerated lithotomy position with the legs flexed and slightly abducted in stirrups and her buttocks over the end of the operation table. This is the position of choice and has been used in over 8,000 surgical procedures.
A careful examination (under anesthesia!) is done as to size, location and texture of the fistula in relation to (presumed) external urethra opening and cervix or vagina vault, as to the condition of the vagina such as stricture, stenosis or even atresia, if there is a rectovaginal fistula as well, if the fistula is accessible, if there is a circumferential defect etc. Based upon this examination the fistula is classified, and the surgeon makes up his definite plan of action for that specific fistula.

objectives
The main objectives of any VVF-repair are: a) to close the fistula, b) to make the patient continent and c) to preserve or to provide her with something for sexual intercourse.
If these three objectives have been achieved the patient will be rehabilitated completely into her own society; this will take place spontaneously without further measures.

methods
The labia minora are sutured onto the inside of the upper legs to keep the vagina open laterally.
To improve the accessibility a uni- or bilateral episiotomy is performed at 4 and/or 8 o'clock or a small median episiotomy at 6 o'clock.
Then an AUVARD self-retaining weighted speculum is placed inside the vagina with underneath a gauze covering the anus; no more specula are needed, one instrument inside the vagina is already a crowd.
If necessary as in fistulas near the cervix, an effort is made to identify and catheterize the ureters for 15-20 cm.

A incision is made at the fistula edge with in the smaller fistulas bilateral transverse extensions; in the larger fistulas transverse incisions are often not necessary.
The anterior vagina wall is widely dissected sharply and/or bluntly from the bladder and/or urethra using the sharply curved THOREK scissors.
The bladder is mobilized sufficiently all in order to perform a completely tension-free closure.
The bladder/urethra is closed with a single layer of interrupted inverting chromic catgut 00 sutures; a second layer is most of the time not possible. Closure is from laterally towards the midline, otherwise it may be very difficult to close the lateral angles and corner-corner fistulas may develop. Good bites are taken to get broad adaptation of the raw bladder and/or urethra musculature. Care is taken only to adapt the tissues and not to apply tension on the sutures as then they will cut through.
Most of the time a transverse closure is the most logical as it presents itself this way and longitudinal closure seems to be against the lines of tension. Care is taken not to go through the bladder mucosa as theoretically this might lead to stone formation, but once in a while this cannot be prevented.
The longitudinal bladder diameter in cm is assessed to obtain an impression of the bladder capacity.
A FOLEY catheter size Ch 18 is inserted into the bladder, the balloon inflated by 5 ml normal saline and water-tight closure is checked by instillation of 20-50 ml gentian violet into the bladder via the FOLEY catheter.
If there is still leakage more sutures can be applied. Sometimes leakage is through the suture holes and then it is accepted as nothing can be done about it.
The anterior vagina wall is closed with interrupted everting (is inverting into the vagina) nonabsorbable sutures and/or chromic catgut 0 sutures. Also here closure is from laterally towards the midline, otherwise the lateral angles may not be closed. Most of the time a transverse closure seems to be the most logical.
The distance from the external urethra opening (EUO) to the balloon of the FOLEY catheter (EUO/B distance) is measured in cm to get an impression of the urethra length.
The amount of elevation of the urethra/UV-junction/bladder neck in relation to the symphysis is assessed, and classified as good, moderate and poor.
The catheter is fixed by a nonabsorbable suture just above the external urethra opening.
If episiotomies have been performed only the skin is closed and they are left open intravaginally.
The vagina is packed tightly with gauze soaked in acriflavine to help hemostasis.
If the patient is in good condition with good urine flow she is transferred to the postoperative ward.

classification

a. classification of fistulas according to anatomic/physiologic location

- **I** not involving the closing mechanism
- **II** involving the closing mechanism
  - **A** without (sub)total urethra involvement
    - **a** without circumferential defect
    - **b** with circumferential defect
  - **B** with (sub)total urethra involvement
    - **a** without circumferential defect
    - **b** with circumferential defect
- **III** miscellaneous, e.g. ureter and other exceptional fistulas

b. further classification as to size

small	< 2 cm
medium	2-3 cm
large	4-5 cm
extensive	≥ 6 cm

operation technique

type I:	only closure
type IIAa:	closure and elevation of bladder neck
type IIAb:	circumferential repair by end-to-end vesicourethrostomy
type IIBa:	+ urethra reconstruction with urethra tissue
type IIBb:	+ urethra reconstruction from other tissue (bladder?)
type III:	ureter implantation or something else

small fistulas (< 2 cm)

The very small fistulas, up to 2 mm in diameter, are troublesome, as the dissection is difficult due to severe scar tissue and it is not easy to invert the bladder at closure. A transverse incision is made through the fistula and then the anterior vagina wall is dissected from the bladder. If possible, the fistulous tract is excised and the bladder closed with a double layer of inverting chromic catgut 00 sutures.
The other ones are easy to repair as most of the time there is not so much tissue loss.

medium-sized fistulas (2-3 cm)

These fistulas are normally easy to repair as there is not so much tissue loss and dissection is easy. If they are located near to the cervix an effort is made to identify and then to catheterize the ureters.

large fistulas (4-5 cm)

These fistulas do not need the bilateral transverse extensions of incision anymore except when a reconstruction of the anterior vagina wall is needed. Here an effort should be made to identify and catheterize the ureters.

extensive fistulas (> 6 cm)

Here very wide moblization of the bladder and/or urethra is necessary in order to perform a tension-free closure. Often, the lateral bladder walls are fixed onto the pubic bones or symphysis to begin the bladder closure. Always an effort should be made to identify and catheterize the ureters. To prevent severe shortening of the vagina often the anterior vagina wall has to be reconstructed. Once in a while the abdomen is opened deliberately between the bladder and uterus for better mobilization of the bladder. If possible the suture line is sealed off with bladder peritoneum.

ureter catheterization

If identified, the ureter(s) are catheterized for 15-20 cm, and then the ureter catheter(s) Ch 5 or 6 are guided through the urethra and fixed onto the skin just cranially from the clitoris with a nonabsorbable suture.

vagina stricture/stenosis

If there is a vagina stricture or stenosis, these are cleaved longitudinally together with the episiotomies, either uni- or bilaterally or medially, and then they are left open at the end of the operation.

multiple fistulas

If there are multiple fistulas near to each other these are made into one, and that one is repaired normally.

If there are multiple fistulas far away from each other, each one is repaired separately either at the same session or in different sessions.

blocked urethra

If the proximal urethra is blocked, as found frequently in the circumferential fistulas, deblocking is performed by passing a metal sound of at least Hegar 6-8 through it, and then the repair is started.

bladder prolapse

If there is bladder prolapse, it is always a prolapse of the bladder base. Normally this is reduced already spontaneously in the exaggerated lithotomy position; otherwise it is reduced by the surgeon. No other measures are needed as this head down/buttocks up position will keep the bladder base reduced throughout the whole operation.

combination VVF/RVF

Normally the VVF is repaired first, and if successful two to three months later the RVF can be repaired.
But in certain situations, e.g. VVF/RVF combined with severe vagina stenosis, the RVF is repaired first together with a widening vaginoplasty which gives a better access at the VVF-repair.
However, the latest development is to repair the VVF and the RVF in the same session if it is not too complicated and if time allows it.

discussion

There are many ways to close a fistula and if one is familiar with one technic and successful as well there is no need to change this technic.
The **position of choice** is the exaggerated lithotomy position and the **route of choice** is the vagina for almost all fistulas. Some surgeons advocate other positions and other routes, but in my experience there was no need to change either.
The actual size of the fistula does not say anything about the damage done as there is a spontaneous tendency for the fistula to become smaller due to scarring.
Far more important is the location and so the accessibility of the fistula. Episiotomies are very helpful to improve the accessibility.
Then the texture of the tissues is very important. If there is a lot of scar tissue, such as in repeated repairs or recurrent fistulas, the whole repair will be difficult and the results may be bad as to both closure and continence.
In the very small fistulas it may be necessary to extirpate some scar tissue of the edge in order to get inversion of the bladder at closure.
At first it was thought that the bladder roof was prolapsing, but later on it was noted that it was the bladder base. This is not surprising as the bladder roof is fixed more or less firmly onto the symphysis and abdominal musculature.
The bladder is closed inverting and the anterior vagina wall everting to prevent contact and cross-union of bladder mucosa with vagina mucosa and so recurrence of the fistula.
Bladder capacity is classified according to the longitudinal bladder diameter (EUO/BW distance minus EUO/B distance) as small ($\leq$ 3 cm), moderate (4-6 cm), normal (7-11 cm) and increased ($\geq$ 12 cm).
The smaller the bladder capacity the more chance that later on urge incontinence will develop.
On the other hand, bladder atony is suspected if the bladder capacity is increased and then the catheter has to be left in for at least 4 weeks.

postoperative instructions and follow-up

postoperative ward

a. check blood pressure and pulse every 30 min for 4 hours

b. encorage oral fluids, at least 5-6 liters a day

c. check catheter drainage, and if blocked flush it or if this is not successful change the catheter

d. urine should be at least 4000 ml per 24 hours and completely clear

e. no antibiotics, unless specifically ordered

f. fersolate, one tablet ods

g. pack to be removed after 1 day, carefully (otherwise pat will start bleeding)

h. episiotomy/graft sutures to be removed after 7 days

i. catheter to be removed after 14 days in the theater

after removal of the catheter the patient is discharged from the postoperative ward back to the hostel. She has to be instructed to continue drinking and to pass urine every 10 to 15 minutes.

postoperative follow-up

intravaginal sutures to be removed 1 week after catheter removal

then 2 weeks later check-up

then 1 month later check-up

then 2 months later check-up

then 2-3 months later last check-up; pat can resume sexual activities

at each check-up please ask for the following:

leaking yes/no; incontinence yes/no; normal micturition yes/no

then check for the following:

healed yes/no; stress incontinence yes/no; elevation good/moderate/bad

whatever you do please write it down on operation report for documentation!

postoperative care
FOLEY Ch 18 catheter for 2 weeks
high oral fluid intake to produce a minimum of 4,000 ml urine per 24 hours
vagina sutures to be removed 1 week after catheter removal

antibiotics
no prophylactic antibiotics since fistula is caused by **necrosis** and **not** by infection
the solution to pollution is **dilution** (high urine output)

indwelling bladder catheter for 2 weeks
FOLEY Ch 18 or 20

postoperative fluid intake
at least 4-6 l per 24 hours in order to get a good urine flow with a **high** urine output of at least 4000 ml per 24 hours

antibiotics
only on strict indications, like generalized sepsis, pneumonia etc.

prognosis as to closure/continence
progressively worse from type I through type IIBb; type III is not common

main postoperative problem when the fistula is closed
stress and/or urge incontinence
so already at first operation make sure the right technic is performed
UV stricture with overflow

postoperative stress incontinence
vaginal colposuspension + bladder drill

postoperative urge incontinence
only strict bladder drill

UV-stricture with overflow
daily gentle dilatation H3 thru H8 for 2 weeks; anterior UV-tomy

social rehabilitation
only by a successful repair; then it takes place spontaneously

future pregnancies/deliveries
regular antenatal care with delivery in hospital by cesarean section as labor assistance is very poor in most instances

dye test
whenever in doubt (fistula?, incontinence?, which type of incontinence?) instill 20-200 ml gentian violet into the bladder under the motto the dye no lie

II surgical research

immediate management of fresh obstetric fistulas

catheter

any patient who starts leaking following childbirth should have an indwelling bladder catheter whatever the cause: fistula, stress incontinence or overflow incontinence (UV-stricture; bladder atony)

by catheter treatment for 4-6 weeks stress/overflow incontinence will heal as well as some 40-60% of the smaller fistulas (up to 2 cm 0 in size)

antibiotics

as the fistula is caused by pressure necrosis and not by infection systemic antibiotics are not indicated routinely just as in bedsores (also pressure necrosis) and burnwounds (thermal necrosis); in burns it is even considered to be malpractice

slough/necrosis of larger fistulas

debridement of the slough as soon as possible like in other types of pressure necrosis (bedsores) or thermal necrosis (burnwounds); this is sound surgical practice of all types of necrosis

early closure

as soon as the fistula edge is clean the larger fistulas (and those fistulas not healed by catheter) should be repaired immediately; this is also sound surgical practice as it falls exactly within the time of the physiologic wound healing processes

circumferential repair of circumferential fistula

type IIAb fistulas

II fistulas involving the closing mechanism

A without (sub)total urethra involvement

b with a circumferential defect

As these fistulas involve the closing mechanism of the bladder circumferentially, only closure of the fistula is by far not sufficient, and something has to be done to make the patient continent as well. An effort has to be made to perform a circumferential repair.

technique

An incision is made at the fistula edge, and the anterior vagina wall is dissected sharply and bluntly from the bladder/urethra using the sharply curved THOREK scissors.

As there is a circumferential loss of part or whole of the closing mechanism an effort is made to get functional bladder musculature tissue circumferentially according to the following three principles:

a. circumferential dissection of the bladder

The bladder is circumferentially dissected sharply/bluntly from the anterior vagina wall, from the pubic bones, from the symphysis and from the anterior abdominal wall without opening the abdomen.

b. advancement/caudad fixation of the bladder

The mobilized bladder is advanced distally towards the urethra in order to perform a tension-free circumferential closure.

c. circumferential end-to-end vesicourethrostomy

First the anterior bladder wall is fixed caudally onto the symphysis with 3x interrupted chromic catgut 0 sutures. Then a FOLEY catheter Ch 18 is inserted into the bladder, and the repair is completed with interrupted inverting chromic catgut 00 sutures as an end-to-end vesicourethrostomy starting anteriorly. The lateral bladder walls are also fixed onto the symphysis with chromic catgut 0 sutures sothat the bladder is properly anchored anterolaterally in order to prevent later dehiscence of the repair.

elevation of bladder neck/UV-junction/proximal urethra

To bring the closing mechanism into a better position an effort is made to elevate the bladder neck/UV-junction/proximal urethra against the symphysis either by fixation of the anterior vagina wall onto the symphysis.

The sutures for fixing the graft or the anterior vagina wall using the sharp DESCHAMPS aneurysm needle are placed into the symphysis periost as soon as the bladder has been mobilized completely, otherwise they cannot be placed anymore or it is very difficult to get them at the right spot.

corner-corner fistulas

These fistulas, mostly bilaterally in the corners and fixed to the symphysis, probably develop after an attempted repair of a circumferential fistula whereby no circumferential dissection is performed and small bilateral defects remain or develop between the bladder and the symphysis. They are very difficult to repair as the access is extremely poor. Probably the best results are obtained when an effort is made to undo the whole previous repair and then perform a circumferential repair.

discussion

Actually this technique evolved from the 2-stage technic in type IIBb fistulas whereby at the first stage the bladder was fixed as far caudally as possible onto the symphysis and at the second stage the urethra was reconstructed.

If the bladder is not mobilized circumferentially there will remain a gap at the anterior bladder/urethra at the backside of the symphysis filled up with nonfunctional scar tissue. The closing mechanism will then be defective.

Using this technic there is no longer a gap of the closing mechanism filled up by scar tissue at the backside of the symphysis, but the closing mechanism consists of functional bladder muscle circumferentially.

The elevation of urethra/UV-junction/bladder neck will bring the closing mechanism under abdominal pressure control.

Some surgeons advocate the knee-elbow position in these fistulas, but it is remarkable how easy and quickly it can be done in the exaggerated lithotomy position.

peroneal nerve trauma

When seen within the first 3 months up to 70% of the patients demonstrate peroneal nerve trauma on the MRC scale from 0-4

bulbocavernosus fibrofatty pad graft

Somehow the sealing off and continence are **not** related to this procedure, and after some 3,500 repairs it is no longer practiced

lithotomy versus knee-elbow position

In the (exagerated) lithotomy position all repairs could be performed without any exception

vaginal approach versus other routes of access

All repairs were done vaginally, except for the **second** in my life, a vesicouterine fistula; nowadays also these fistulas are performed vaginally

III documentation

database
over 1 million parameters have been gathered

documentation
written operation reports with drawings and over 20,000 full-color slides

evaluation reports
every half year evaluation reports are written to stress the public health problem

IV overall performance and results
From January 1984 up to now, over 8,500 procedures have been performed; as well as 82 doctors and 75 nurses have been trained in the noble art of VVF management.

V plans for the future
A masterplan has been prepared to extend the project through the rest of (West) Africa already in 1989, but no sponsoring agency is available. It has to be a joint venture by one of the UN family (WHO, UNDP, UNFPA), the respective governments and NGOs. An International Obstetric Fistula Foundation is needed to finance an all-Africa VVF-project.

abstract
The obstetric fistula will remain a major public health problem in Africa for many years to come, with 1.5-2 million patients waiting desperately for an operation.
As such it presents a challenge to present and future generations of surgeons, especially what to do under primitive conditions.
An outline is given of the surgical management with reference to a surgical classification, from the moment the patients enters the hospital until she is discharged from treatment.
Antibiotics are not given routinely since the fistula is caused by necrosis and not by infection.
Special attention is given to the immediate management of fresh obstetric fistulas according to basic surgical principles. Sofar some 1,000 patients have been treated by catheter, debridement and early closure with a success rate of 95%. This prevents the woman to be ostracized from her own community.
A new approach is presented for the circumferential fistula type IIAb: the circumferential repair. The principles are a) circumferential dissection of the bladder, b) advancement and caudad fixation of the anterior bladder wall onto symphysis/urethra and c) end-to-end vesicourethrostomy. This improves the success rate as to both closure and continence.
An evaluation of a major VVF-repair and -training project in Northern Nigeria and Southern Republique du Niger comprising 6 VVF centers is presented: over 8,500 repairs performed; 82 doctors and 75 nurses trained. Proper documentation is stressed.

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immediate indwelling bladder catheterization at postpartum urine leakage

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introduction

The occurrence of urine leakage post partum constitutes a major concern to the woman, the hospital staff and the community ((1)).
Immediate postpartum vaginal examination is troublesome, and thus most of the time not done, and almost instantaneously the diagnosis of vesicovaginal fistula (VVF) is made.
Then heavy doses of antibiotics are prescribed, and as soon as the patient has sufficiently recovered from her childbirth she is sent home and told to come back after 3 months for further evaluation.
As in many instances she cannot be managed, due to lack of facilities, lack of instruments or lack of expertise, she starts to travel from place to place until she finds somebody who is capable and willing to operate upon her.
However, not all urine leakage post partum is a VVF, and contrary to the general belief a great deal can be and should be done already immediately by very simple measures under any condition however primitive that may be and by anybody who is involved at postpartum care, be it a doctor, a nurse or a midwife. It also involves only a little amount of money.

cause of leakage

There are several conditions to be considered, viz. vesicovaginal fistula, atonic bladder with overflow, urethra stricture with overflow, and stress incontinence.
The **vesicovaginal fistula** in all its forms is the most common and varies in size from minute to very extensive. There is always the possibility of spontaneous healing, especially in the small fistulas; this process may be speeded up by an indwelling bladder catheter for total decompression.
In **atonic bladder** with overflow incontinence the detrusor muscle fibers have been overstretched to such an extent that they cannot contract any more. Decompression by an indwelling bladder catheter gives it the opportunity to recover completely.
In **strictures of the urethrovesical junction**, there is outflow obstruction with overflow incontinence. Gentle gradual dilatation of this stricture by metal sound up through size Hegar 8 and then an indwelling bladder catheter most of the time heals this.
Stress incontinence immediately after labor may be due to a subfistulous trauma to the closing mechanism. It may also be an atonic bladder which is spontaneously recovering with in its healing phase stress incontinence. An indwelling catheter may contribute to complete recovery.

treatment

specific treatment of the leakage
The principle is to decompress the bladder totally for a sufficiently long time in order to give it the opportunity to heal spontaneously since the fresh wound edges are lying against each other. The earlier this is done the better the chance of spontaneous healing.

a. indwelling bladder catheter

A sufficiently large FOLEY catheter (preferably size Ch 18) is inserted to have free draining of urine for at least 4-6 weeks. The balloon is filled up with a maximum of 10 ml normal saline. Whenever the catheter gets blocked (only when she is not drinking enough!), it is flushed or changed for another.

b. high oral fluid intake

To prevent blocking of the catheter and to prevent ascending urinary tract infection ensure that the patient drinks at least 5-6 liters of fluids (in whatever form) in order to produce a minimum of 4,000 ml urine per 24 hr. The urine should be completely colorless like clear water.

c. no antibiotics

The routine use of antibiotics should be abolished, as the fistula is caused by necrosis and not by infection. Only when the patient develops generalized sepsis like puerperal sepsis or a specific infection like pneumonia should antibiotics be prescribed.

supportive treatment for her general conditiom

d. hematinics

If needed fersolate and folic acid are prescribed, and in severe anemia iron dextran i.m.

e. high-protein diet

As the trauma of obstructed labor is such that many patients are in a bad state of health immediately after labor, a high-protein diet is prescribed if needed.

The first few days the patient should stay in the hospital under close supervision to monitor her and to instruct her properly. Then when her general condition is alright she can be treated on an outpatient base. She has to come once a week to report on leaking and to be instructed again to drink as much as possible. If possible a vaginal examination should be made every 1-2 weeks to determine the spontaneous healing tendency but this is not really necessary.

After removal of the catheter, the patient is instructed to continue drinking and to pass urine frequently. She has to refrain from sexual intercourse for 4-6 mth. Also she is instructed to attend antenatal care at subsequent pregnancies and to deliver in a hospital at subsequent deliveries.

results

Only by these simple measures, indwelling bladder catheter for at least 4-6 weeks and high oral fluid intake, at least some 5-10% of the patients leaking urine immediately post partum will be cured. The earlier the catheter is inserted after the leaking starts the higher the success rate.

The patients who still leak after 6 weeks of catheterization have to be referred to a VVF-center for further evaluation and treatment.

A total of **338** patients were **cured completely,** all without antibiotics, since the author started this type of management in August 1985.

discussion

This treatment regimen is based on a personal experience in over 6,000 fistula patients, out of whom 1,200 were treated within 3 months after labor either by catheter or by catheter followed by operation or straight away by operation.

It is the beginning of an immediate active management of any woman who starts leaking urine after childbirth. If successful, and that is in 5-10% of the patients, it will prevent the woman from being ostracized from her own family and community. If not successful, she has to be referred to a VVF-center for further surgical management. If upon vaginal examination the fistula is too big or the balloon is inside the fistula, the catheter should be removed, and the patient referred to a fistula surgeon.

The indwelling FOLEY catheter will decompress the bladder sothat the wound edges are coming together and stay together, at least in the smaller fistulas. As such this will promote spontaneous healing of the smaller fistulas. Also it may prevent urine dermatitis to develop.

Open draining of the catheter into a pot or a plastic bowl is better than closed draining into a urine bag, when one sees how the patients handle their urine bag. Therefore the author fixes an infusion giving set to the catheter to allow the patient free mobility. There should be free drainage at all times, and the patient has to be instructed not to block the catheter or to lie upon the catheter when she sleeps. If the catheter gets blocked, it should be flushed or changed for another immediately, and the patient should be urged to drink.
The importance of a high oral fluid intake cannot be stressed enough. The consequent high urine output will prevent blockage of the catheter and will prevent any ascending urinary tract infection. Urinary tract infection will only develop with a low urine output and/or outflow obstruction. If the urine is not clear and colourless like water she is not drinking enough.
The indiscriminate use of antibiotics in necrotic lesions is against basic surgical principles. In burnwounds, thermal necrosis, where the necrotic trauma is far more extensive routine antibiotics are even considered to be malpractice. The best would be to excise the slough and as soon as the wounds are clean to perform early closure ((2)). However, this requires ample experience in VVF-surgery and is beyond the scope of this article.
Nothing wrong can be done by this type of immediate catheterization. However, the patient has to be instructed and monitored very carefully.
If the leaking extends beyond 3 mth after childbirth nothing can be expected anymore from catheterization.
Though the obstetric fistula will remain a major public health problem for at least 50 years coming ((3)), immediate bladder catheterization will have a small impact.

conclusion

Any woman who starts leaking urine post partum should have an indwelling bladder catheter for a period of at least 4-6 weeks. And then she has to take 5-6 liters of oral fluids a day to produce a minimum of 4-6 liters of urine per 24 hours.

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