



Vesico Vaginal Fistula Repair; Aspects of the Problem and The Total Approach. A Continence Promotion Committee (CPC) Initiative.

W19, 29 August 2011 14:00 - 18:00

Start	End	Topic	Speakers
14:00	14:15	Introduction and Overview	<ul style="list-style-type: none"> • Sherif Mourad
14:15	14:30	Vaginal Fistula; Epidemiology of Vesicovaginal Fistula (VVF)	<ul style="list-style-type: none"> • Suzy Elneil
14:30	14:45	Anatomical Aspects & Etiology	<ul style="list-style-type: none"> • Hassan Shaker
14:45	15:00	Classification of Vaginal Fistulae	<ul style="list-style-type: none"> • Edward Stanford
15:00	15:15	Prevention Measures of Obstetrical Vesicovaginal Fistula	<ul style="list-style-type: none"> • Alice Emasu
15:15	15:30	Discussion	All
15:30	16:00	Break	None
16:00	16:20	Pre and Post Operative Physiotherapeutical Treatment for patients with VVF	<ul style="list-style-type: none"> • Els Bakker
16:20	16:40	Surgery for Low Vaginal Fistulae	<ul style="list-style-type: none"> • Sherif Mourad
16:40	17:00	Surgery for High Vaginal Fistula	<ul style="list-style-type: none"> • Suzy Elneil
17:00	17:20	How to Treat Complications of Fistula Repair	<ul style="list-style-type: none"> • Sherif Mourad
17:20	17:40	Dealing with Urinary Incontinence and Reintegration of Patients with VVF	<ul style="list-style-type: none"> • Ahmed Saafan
17:40	18:00	Discussion	All

Aims of course/workshop

The aim of this workshop is to introduce the problem of vaginal fistula and to show the epidemiology and prevalence worldwide.. The attendees should understand the classification, the different forms of vaginal fistulae and how big and complicated it could be. The surgical approaches together with the surgical skills and tips will be presented in a way that elaborates the technical difficulties and the possible post operative events.

Educational Objectives

This workshop is very important in showing the audience the real factors after the increased numbers of vaginal fistulae, especially in the developing countries. The anatomical consideration and fistula classification will help in better understanding the workup of the cases. It is also a must to educate them that the best results will be only obtained after the first repair and not with the recurrent cases, so it is crucial to learn how to do it right from the first time. The operative tips are many and help much in improving the results and this includes low and high fistula approach and the interpositioning of different tissues in different approaches. The post operative complications could be a real problem and that is why we shall discuss it in details and show how to repair it successfully.

Videos of some surgeries will give better understanding of the techniques. Also the reintegration of the patients will be well discussed.

Vesicovaginal Fistula in the Disadvantaged

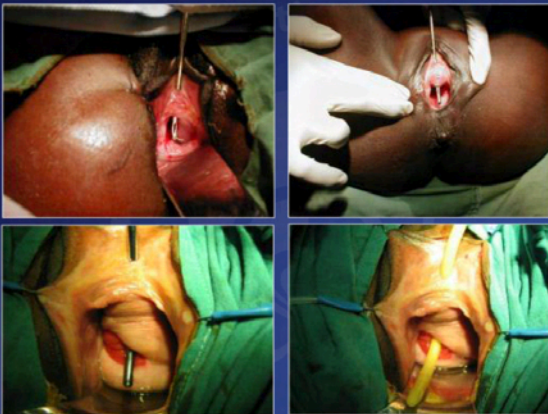


Sherif Mourad, MD

Professor of Urology, Ain Shams University
President of Pan Arab Continence Society
Chairman of ICS Fistula Committee

Introduction

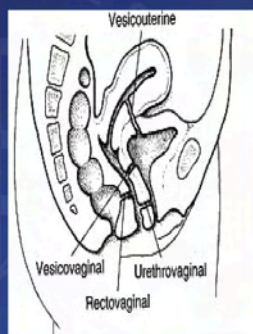
- Vesicovaginal fistula (VVF) is a subtype of female urogenital fistula (UGF).
- VVF is an abnormal fistulous tract extending between the bladder and the vagina.
- It allows continuous involuntary discharge of urine into the vaginal vault.



Countries from which obstetric vesico-vaginal fistulas have been reported (WHO 2003). The prevalence is actually greater than this map indicates.

Types of Urogenital Fistula

- Vesicovaginal fistula (VVF)
- Recto-vaginal fistula (RVF)
- Urethrovaginal fistula (UVF)
- Ureterovaginal fistula
- Vesicouterine fistula



Etiology in Developing countries

- Marriage and conception at a young age, often before full pelvic growth has been achieved.
- Chronic malnutrition limits pelvic dimensions, increasing the risk of cephalopelvic disproportion and malpresentation.
- Few attendances by qualified health care professionals or having access to medical facilities during childbirth.

Difficulty in Classifications

- Bias from previous experience
 - 'simple', 'massive', 'high', 'low'
 - 'difficult'
- Clinical findings
 - Anatomical changes eg shortened vagina
 - Larger fistula over 2 sites eg 'urethro-' & 'bladder-neck'
- Terminology
 - 'normal sphincter', 'closing mechanism'

Description of Fistulae

- Site
 - vesico-vaginal
 - recto-vaginal
 - mid-vaginal, high
- Size
- Surrounding tissues
 - Scarring, tissue deficit

Sims (1852)

- Urinary fistulae
 - Urethro-vaginal
 - Bladder neck
 - Body and floor of bladder
 - Utero-vesical



Mahfouz (1929)

- Urinary fistulae
 - Urethro-vaginal
 - Vesico-urethro-vaginal
 - Vesico-vaginal
 - Vesico-cervical
 - Vesico-cervico-vaginal
 - Uretero-vaginal
- Rectovaginal
 - At or near the perineum
 - Middle third of vagina
 - At vault

Chassar Moir (1956)

- Urinary fistulae
 - High
 - Mid
 - Urethro-vaginal
 - Circumferential



Bird (1967)

- Class I: Urethro-vaginal, vesico-urethro-vaginal, bladder neck vesico-vaginal
 - Type A: Uncomplicated by fixation to pubic bone
 - Type B: Complicated by fixation to pubic bone
 - Type C: Circumferential
- Class II: Mid-vaginal fistulae
- Class III: Juxta-cervical, vesico-cervico-vaginal, vesico-uterine
- Results
 - 62 cases – 79% closed & dry; 15% closed and incontinent
 - Type IA (29): 100% closed and dry
 - Type IB (10): 60% closed and dry; 20% closed and incontinent
 - Type IC (9): 0% closed and dry; 78% closed and incontinent
 - Type II (3): 100% closed and dry
 - Type III (11): 100% closed and dry

Gray (1970)

- Grade 1-4
- Bladder
- Bladder neck

Hamlin & Nicholson (1969)

- Urinary and rectal fistulae
 - Simple vesico-vaginal
 - Simple recto-vaginal
 - Simple urethro-vaginal
 - Difficult high recto-vaginal
 - Vesico-uterine
 - Difficult urinary fistula
 - Total urethral destruction, extensive sloughing, extensive scarring

Waaldijk (1995)

- Urinary fistulae
 - Type I
 - Not involving the closing mechanism
 - Type II – involving closing mechanism
 - 'A' without (sub)total urethral involvement
 - 'B' with (sub) total urethral involvement
 - 'a' without circumferential defect
 - 'b' with circumferential defect
- Results
 - Classified 2522 women in operating theatre
 - Results given for 500 consecutive cases
 - Total Closed = 88%; closed and dry = 89%
 - Type I: closure 90.4%; incontinent 1.4%
 - Type IIA: closure 88.5%; incontinent 14.5%
 - Type IIB: closure 76.8%; incontinent 20.9%

Goh (2004)

- Type 4 <1.5 cm
- Type 3 1.5 - <2.5 cm
- Type 2 2.5 - 3.5 cm
- Type 1 > 3.5 cm
- Size
 - a < 1.5 cm
 - b 1.5 - 3 cm
 - c > 3 cm
- i scarring none/mild
- ii scarring mod/severe
- iii circumferential

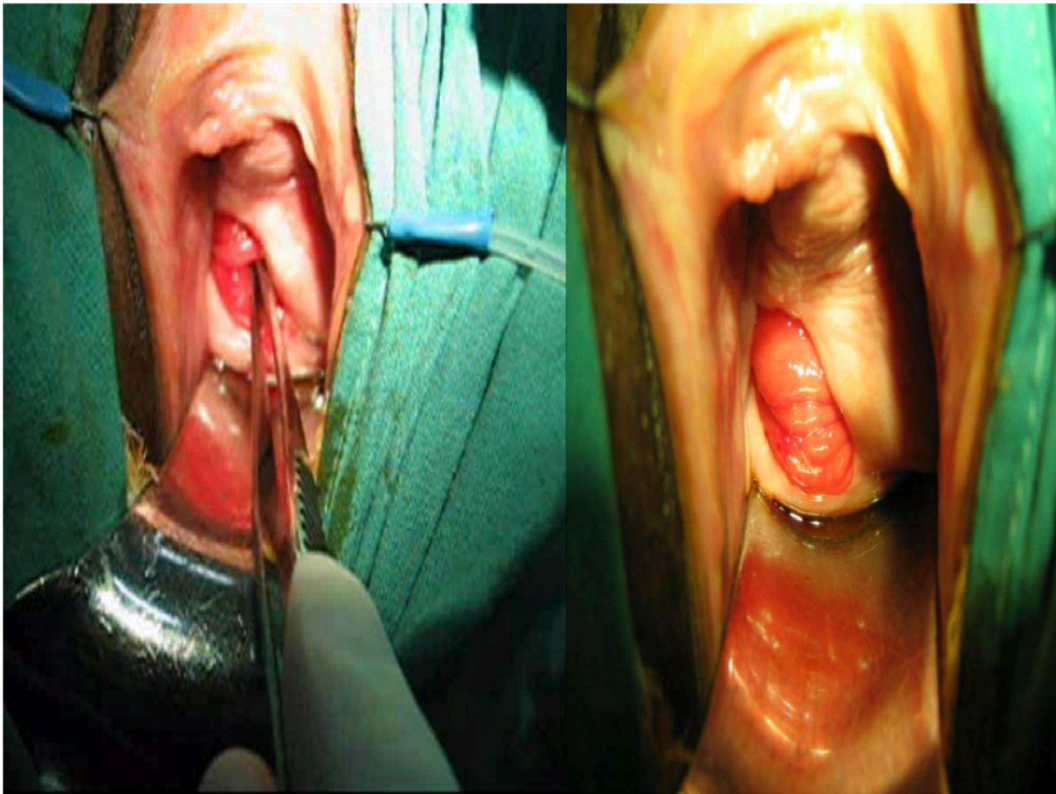
Classification Video

- Stanford, Capes, Yunga 2009

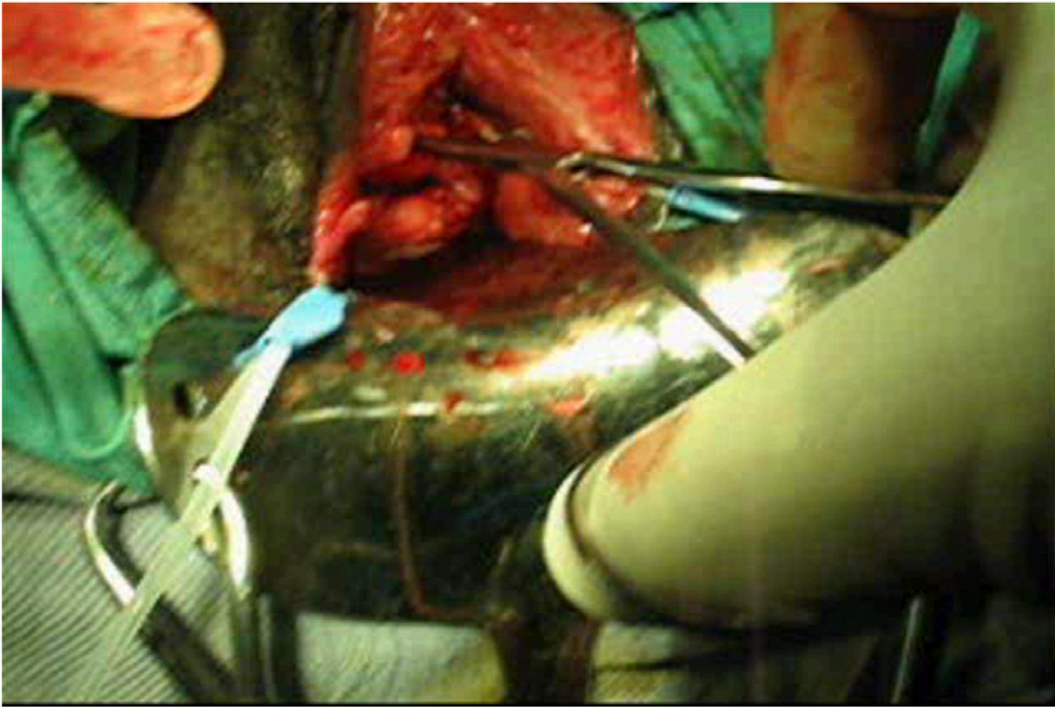
Vesicovaginal fistula. Cases presentation.

By

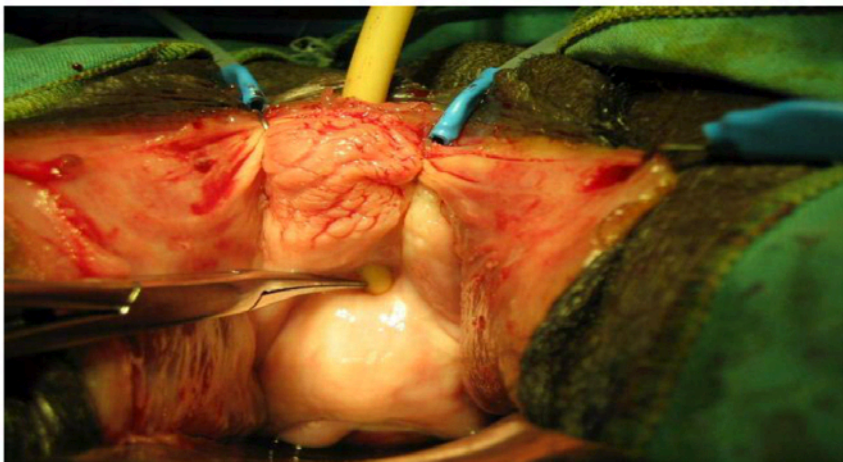
Ahmed Saafan M.D. Urology
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Cairo- Egypt

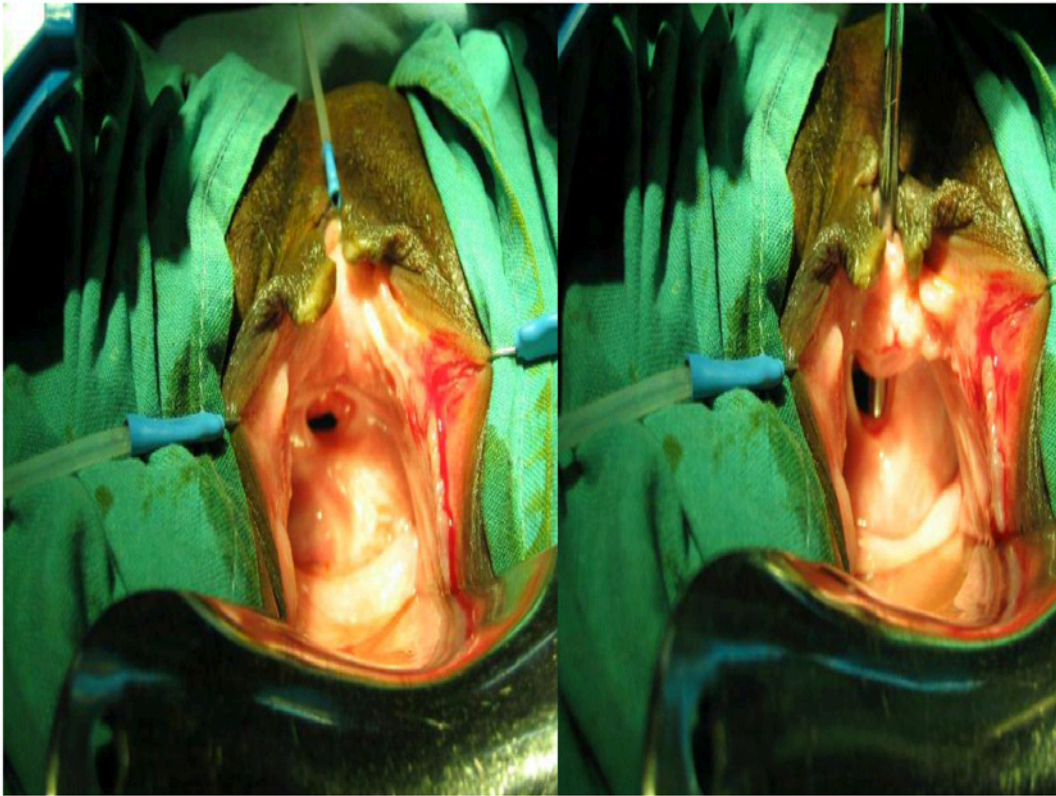


Stone removal from VVF

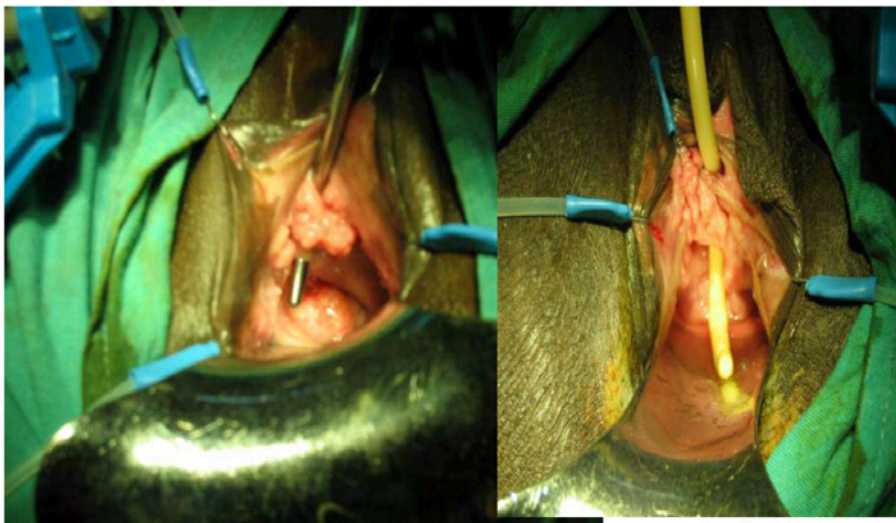


The mid-level fistula: involving the vesico-urethral junction





the urethral fistula.



- Female circumcision and the practice of harmful traditional medical practices such as **Gishiri incisions** (anterior vaginal wall incisions).

- The insertion of caustic substances into the vagina with the intent to treat a gynecologic condition or to help the vagina to return to its nulliparous state.

- Prolonged impaction of the fetal presenting part in the pelvis causing widespread tissue edema, hypoxia, necrosis, and sloughing resulting from prolonged pressure on the soft tissues of the vagina, bladder base, and urethra.

- Complex neuropathic bladder dysfunction and urethral sphincteric incompetency often result, even if the fistula can be repaired successfully.

Developed countries

- VVF is mainly due to inadvertent bladder injury during pelvic surgery (90%).

- Bladder wall injury from electro-cautery or mechanical crushing, and the dissection of the bladder into an incorrect plane, causing avascular necrosis.

- The risk of formation of a hematoma or avascular necrosis after a suture is placed through the bladder wall can lead to infection, abscess, and subsequent suture erosion through the bladder wall.

- Patients may complain of urinary incontinence or an increase in vaginal discharge .

- The drainage may be continuous; however ,with a very small UGF, it may be intermittent.

- Increased postoperative abdominal, pelvic, or flank pain; prolonged ileus; and fever should alert the physician to possible urinoma or urine ascites and mandates expeditious evaluation.

- Recurrent cystitis or pyelonephritis, abnormal urinary stream, and hematuria also should initiate a workup for UGF.

Pathophysiology

- When labor becomes difficult, on account of disproportion between the pelvis and presenting part, or when the presentation is abnormal, the uterine contractions increase in strength and endeavor to force the presenting part through the brim.

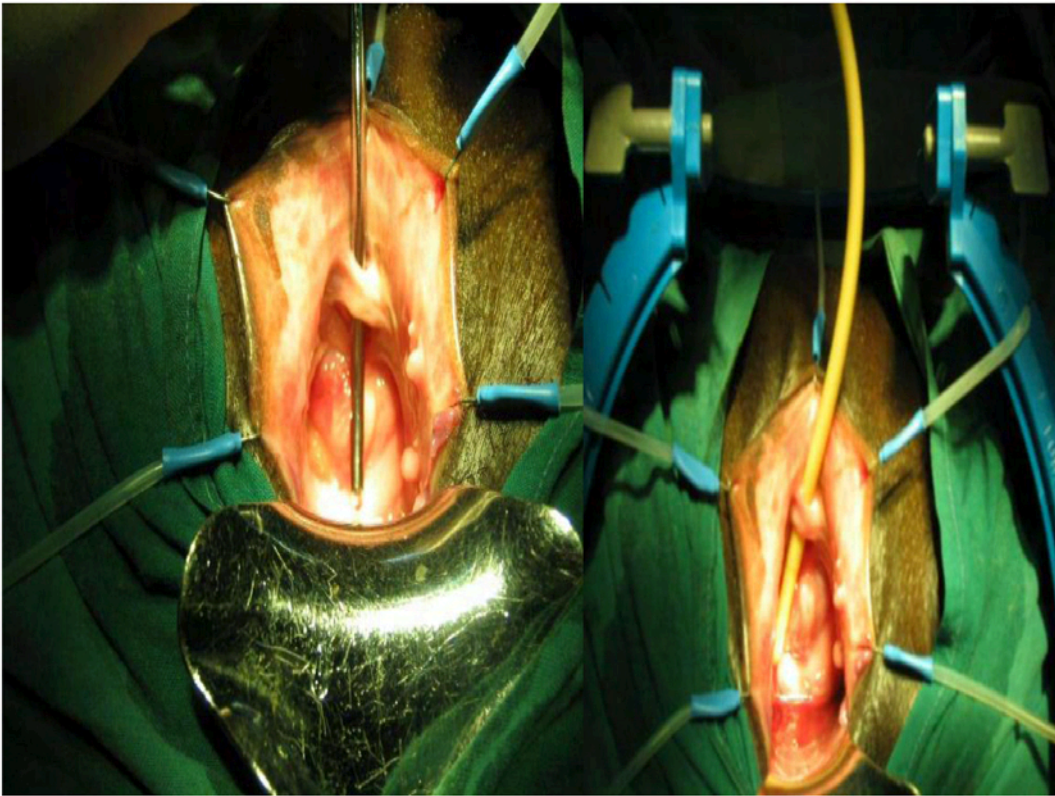
- The membranes protrude unduly in the vagina, and premature rupture occurs. In consequence of early rupture and disproportion the full force of the uterine contractions is directly exerted upon the fetus and the presenting part is forced against the brim of the pelvis or gets tightly impacted therein.

- The vesico-vaginal septum, and the cervix; if the latter is not dilated, will be tightly compressed against the back of the symphysis pubis.

- The uterus in such cases usually passes into a state of tonic contractions which prevents any remission in the pressure exerted on the soft parts.

- As a result of the continued pressure the tissues undergo necrosis and slough away.

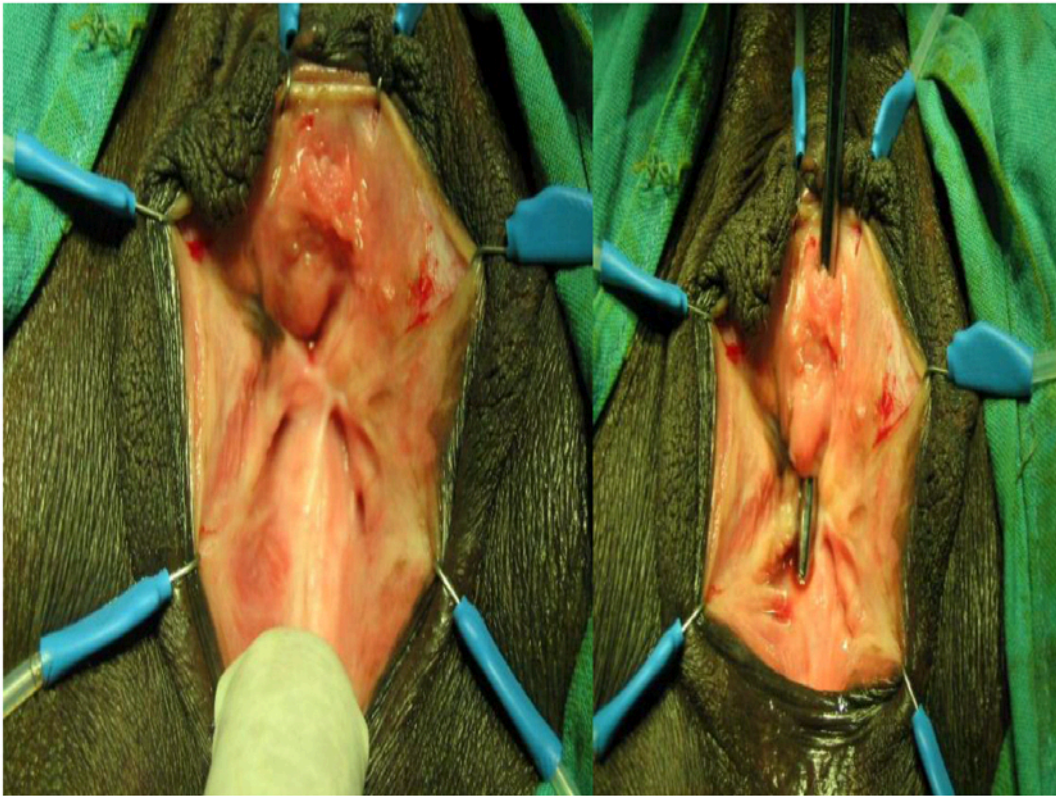
- The slough that develops from this pressure necrosis most commonly results in a vesico-vaginal fistula



Complicated fistulae

V
R
Vaginal fibro

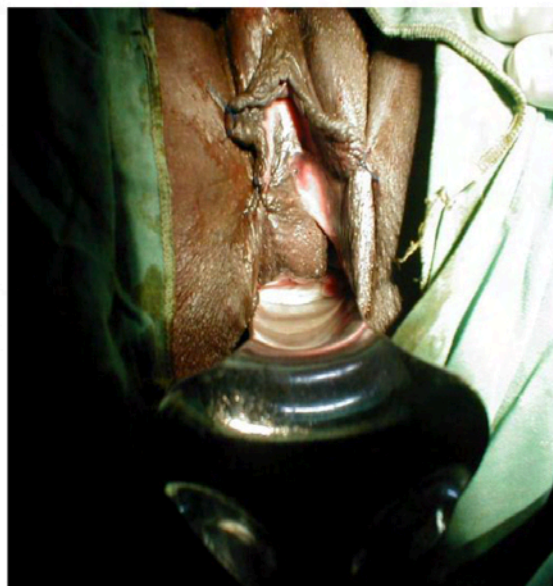




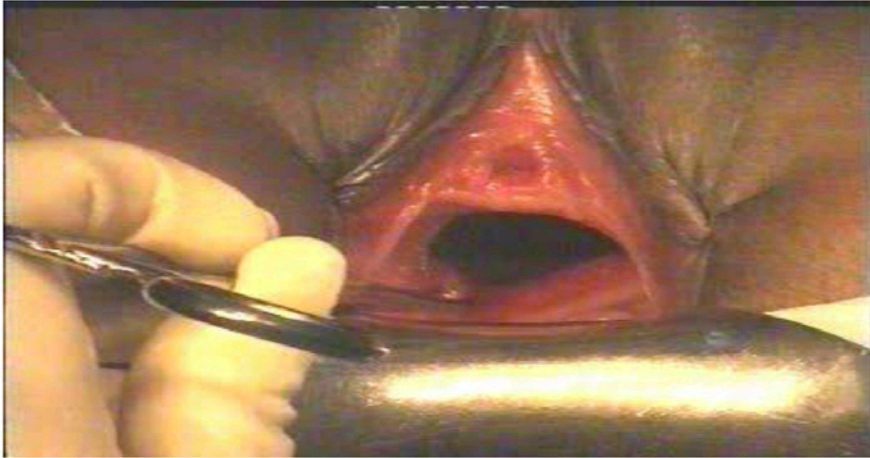
Complicated fistula

Full thickness
cutaneous graft

After several
unsuccessful
attempts at repair



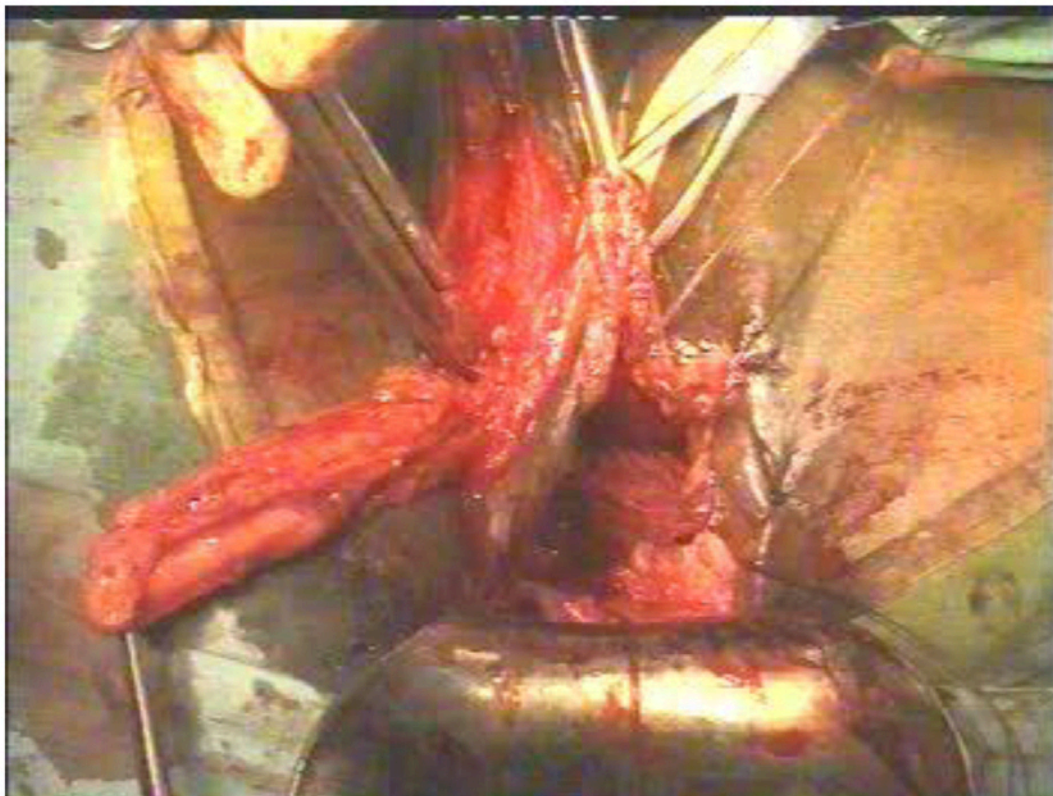
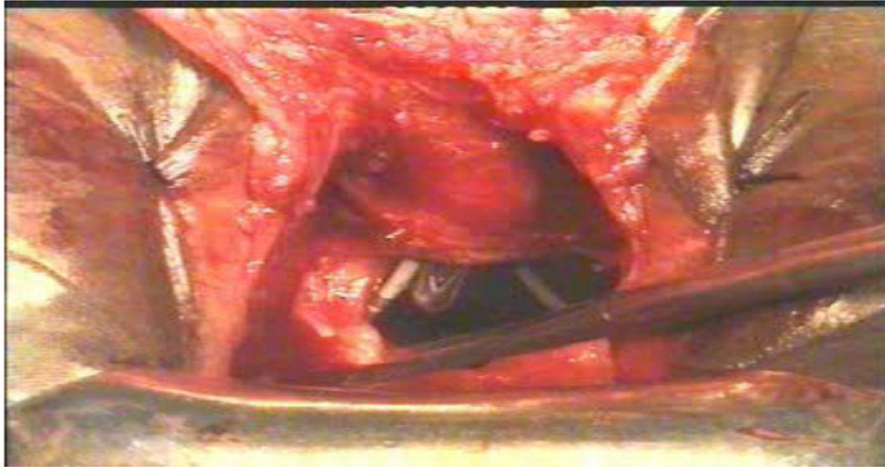
Ureteric orifices identifications.



Dissection



Separation of bladder from the vagina





Fibrin Glue Versus Martius Flap Interpositioning in the Repair of Complicated Obstetric Vesicovaginal Fistula. A Prospective Multi-Institution Randomized Trial

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Aims: To examine the efficacy of using fibrin glue (FG) as an interpositioning layer in the repair of complicated vesioovaginal fistulae (VVF) as compared to the classical repair using martius flaps (M¹). **Methods:** The study was conducted in 3 African institutions. Forty female patients with complicated VVFs were randomized into 2 groups. Group A were repaired anatomically using PG as interpositioning layer. Group B were repaired anatomically using MF as an interpositioning layer. FG used in this study was prepared from patients own blood. Complicating factors were recurrence, local moderate to severe fibrosis, fistula location involving the bladder neck, and or size of the fistula being more than 1.5 cm in its largest diameter. Patients were evaluated after 2 weeks, one month and 3 months postoperatively. **Results:** Thirty eight patients were evaluable as 2 patients, one from each group, lost to follow-up. Patient demographics were not different between the two study groups. The frequency of occurrence of complicating factors was not different between the 2 groups. Thirteen of group A and eleven from group B were rendered dry and that was maintained for as long as they were followed-up. The difference in the outcome was not statistically significant. **Conclusion:** The use of FG as an interpositioning layer during the vaginal anatomical repair of complicated VVF appears to be of great value as an alternative to the use of MF interpositioning. Decreasing the operative time and adding simplicity to the already complicated procedure are additional values of using this procedure. *NeuroUrol. Urodynam.* 28:438–441, 2009. © 2009 Wiley-Liss, Inc.

Key words: fibrin glue; multicenter; prospective; randomized; vesicovaginal fistula

Physiotherapy in case of obstetrical fistula

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Prolonged obstructed labor may produce injuries to multiple organ systems. The best known, and most common, of these injuries is obstetric fistula formation. When obstructed labor is unrelieved, the presenting fetal part is impacted against the soft tissues of the pelvis and a widespread ischemic vascular injury develops that result in tissue necrosis and subsequent fistula formation (Arrowsmith 1996).

The objectives of physiotherapy for women in the management of fistula are triple:

1. Prevention : Shorten 2nd stage labour by teaching correct pushing techniques and different positions during labour
2. Achieve optimal physical fitness pre- and postoperatively
3. Continence management

1. Prevention

Bhutta concluded in his review of strategies (2009) that technical skills in providing continuous care during childbirth might be more influential on birth outcomes than provision of antenatal social support. This corresponds with the clear evidence for impact on stillbirth by training traditional birth attendance leading to shorter labor and more spontaneous vaginal births found in the Cochrane review of Hodnett (2007)

Midwives and physios should teach the women to use correct pushing techniques and using positions to facilitate the delivery.

During birth the movements in the sacro-iliac joints (10 to 12°) will enable the opening of the superior detroit by contra-nutation of the sacrum and of the inferior detroit by nutation of the sacrum. Positioning the legs (rotation, flexion, extension) or the trunk might help to open the different detroits.

2. Achieve optimal physical fitness pre- and postoperatively

a. Regain as full and active life after surgery as possible

Each woman should be taught to do regular general exercises to promote good circulation and respiration and maintain normal mobility of the joints and good muscle strength; they have to be encouraged to move as much as possible.

b. Managing the effects of neurological damage

For those women with ischemia of the lumbar-sacral plexus due to prolonged labour, the neurological damage will lead to some degree of muscle weakness. In severe cases the patient can even be unable to move. They are at very high risk to develop contractures of the hip, knee and ankles due to a lack of mobilization. Return to normal life will then be impossible due to limitation of movement in the joints. These contractures can easily be prevented in an early stage by correct positioning in her bed (maintaining functional

positions of her paralyzed limbs) and passive mobilization by a physiotherapist, a nurse or a member of the family. No movements should be forced (gently and slow stretching of all soft tissues) and each movement should be repeated 5 times. It is the role of the physiotherapy or nurse to teach these maneuvers.

In less severe cases the neurological damage can be limited to a uni- or bilateral foot drop. In this case the sole of her affected foot should be supported by sandbags to maintain a functional position of 90 degrees dorsiflexion. For the passive mobilization we can give a wide rubber band or a sheet to the women. She takes one end in each hand and passes it under her foot. Keeping her knee straight she then pulls gently up until she feels a stretch at the back of her calf muscle. She should hold this position, count to 30 and then release. If available electro stimulation can be used to stimulate the tibialis anterior

c. Give postoperative advice to maintain the results of the surgery

How to protect her from the effects of increased intra-abdominal pressure during physical activities and how she can protect herself from strain. Epidemiological studies (Chiarelli 2000) showed clear association between straining and incontinence, and straining and PF dysfunctions (Lubowski 1988)

3. Continence management

Learning about the importance of, and techniques for, regular pelvic floor exercises to help with postoperative bladder and bowel control should be started as soon as the woman is admitted for operation. By the time she is discharged, every woman should understand:

- Where her pelvic floor muscles are and how to exercise them. Learning about her pelvic floor is the first step in this process. Diagrams and models are helpful in helping her understand where the muscles are placed in relation to her bladder, vagina and rectum
- The pelvic floor contraction is described as squeezing and lifting inside as though trying to stop the flow of urine (special attention should be paid to discourage the women to stop and start the urine flow) or prevent wind coming out of the back passage. To control if the patient is doing a correct pelvic floor contraction, a vaginal examination enables an accurate assessment of the strength of the contraction and endurance of the muscles. As this is not always possible, an external manual (a finger on the perineal body) or visual (visible tightening and drawing in of the vagina, the anus and the perineal body) control might be interesting.

The recommendations of all the above methods are empirical; no studies have been conducted until now comparing the different learning processes, although we know that cerebral plasticity has a big role. (di Gangi-Herms 2006)

Common errors are the contraction of the outer abdominal wall, hip adductors, gluteal muscles, stop breathing or straining. In the last case there is a bulging downwards of the perineum this indicates that the woman is pushing down instead of pulling up. This should be explained to the woman and she should be asked to try again. If there is no visible contraction, it may help to place a finger on the perineal body and ask the woman to tighten and lift away from the finger. (EBPT Pelvic Floor- Bo)

- Once the woman understands the contraction she should be asked to develop muscle strength and endurance. Muscle strength is best developed by maximal contractions (squeeze as tightly as possible, hold for 5-10 sec, and release for 10-20 seconds), endurance by great number of repetitions (Bo et al 1990, Kraemer and Ratamess 2004). Each woman should be encouraged to work at her own possibilities, increasing the duration and number of the contractions according to the muscle improvement. This makes take time if there is neurological damage
- The importance of undertaking regular pelvic floor exercises to help with bladder and bowel control, and that these exercises can be done at any time, in any place, and that no one will know she is doing them.
CAVE : These exercises should not be done during the immediate postoperative period when the bladder catheter is still in place.
- Restore anticipatory postural activity of the abdomino-lumbo-pelvic region (Sapsford 2004; Smith 2006)

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-The time of clinical presentation depends on the etiology of the VVF:

A VVF secondary to a bladder laceration typically presents immediately.

Approximately 90% of genitourinary fistulas associated with pelvic surgery are symptomatic within 7-30 days postoperatively.

An anterior vaginal wall laceration associated with obstetric fistulas typically (75%) presents in the first 24 hours of delivery.

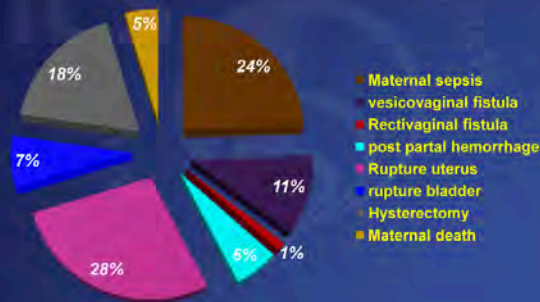
In contrast, radiation-induced UGFs are associated with slowly progressive devascularization necrosis and may present 30 days up to many years later.

Incidence (in millions) of Major Maternal Health Complications By Region (WHO, 2004)

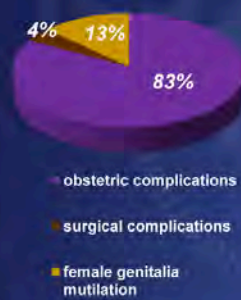
Complication	World	Africa	Americas	Eastern Med.	Europe	SE Asia	Western Pacific
Maternal haemorrhage	12.0	3.0	1.2	1.6	0.7	4.0	1.4
Sepsis	5.2	1.2	0.6	0.7	0.3	1.7	0.6
Hyperstensive Disorders	8.4	2.1	0.8	1.2	0.5	2.8	1.1
Obstructed labour	4.0	1.1	0.1	0.5	0.0	1.3	0.4
Unsafe Abortion	20.4	4.8	4.0	2.9	0.5	7.4	0.8

Source: WHO Global Burden of Disease Update 2004

Maternal complications of obstructed labor, in Adigrat zonal Hospital in Northern Ethiopia, 1993-2001



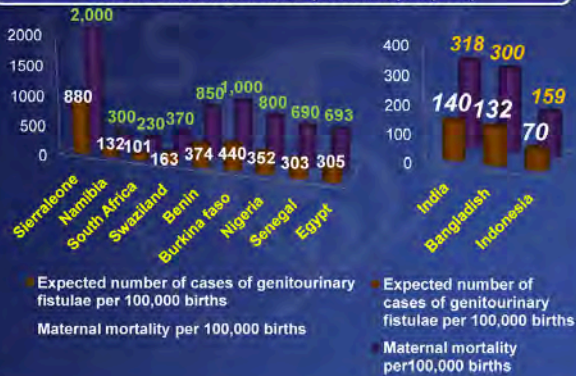
Percentile chart of causes of V.V.F in Nigeria in 2006



Causes of V.V.F in India 2007 (UNFPA report)



Maternal mortalities and expected numbers of cases of genitourinary fistulae in selected African countries and in Asia: UNFPA's State of the World Population Report (2007)



"Nobody wants to stay with me due to the smell of urine. Even my husband sometimes blames me for my condition."

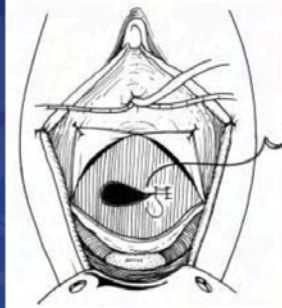
29-year-old woman, Bangladesh

"I am distasteful in the eyes of others. It is God's will"

48-year old woman, Mali

Fistula Repairs

- Treatment complexity and success depend on multiple factors including:
 - Fistula type
 - Size
 - Degree of scarring
 - Involvement urethra, ureter and bladder
 - Provider capacity
 - Postoperative care and compliance

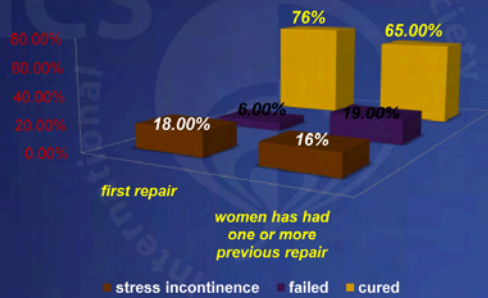


Fistula Cure

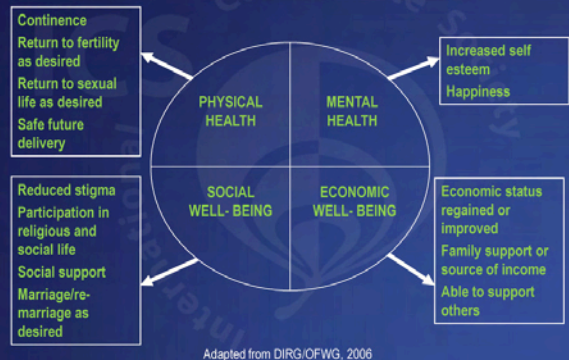
For a 100% cure; the following conditions must be fully satisfied:

- Complete continence by day and night
- Bladder capacity > 170ml
- No SIU
- Normal coitus without dyspareunia
- No traumatic amenorrhea
- Ability to bear children

Outcome of surgery by repair attempt in Zambia, 2005
 (source : Maternity Unit, Monze Mission Hospital, Monze, Southern Province, Zambia Department of Public Health and Epidemiology, The Medical School, University of Birmingham)



Women's potential expectations for reintegration



Reintegration Services

For the woman:

- Counseling
- Peer support
- Reproductive health educ.
- Life skills education
- Literacy training
- Skills training, incl. as health workers
- Micro-credit or grants
- Accompaniment
- Counseling with family/ husband

In the community:

- Awareness campaigns to local leaders
- Community education sessions, media,
- Mobilization to support the women in seeking both prevention and treatment services

National Stakeholders

- MOH
- Ministry of Women's Affairs
- Policymakers
- Professional Organizations (Ob/Gyn Society, midwifery association)
- Doctors, surgeons, midwives, social workers with experience in OF.
- Economist/Statistician
- International agencies and donors
- CSO (NGOs, FBOs, CBOs, etc)
- Women's rights groups and advocates, fistula survivors.

Challenges in surgery in Africa as seen by surgeons:

- 1- Severe shortage of surgeons.
- 2- Poor conditions of service / Poor salaries; unclear career structure.
- 3- Concentration of surgeons in towns and cities 80 – 100% in urban areas where only 5 -15% of populations lives.
- 4- Limited opportunities to further education and training.
- 5- Lack of opportunities to research , and learn new techniques.
- 6- Lack of opportunities for surgeons to improve and keep up with the times.
- 7- Retention and motivation. dedication and devotion.
- 8- Severe shortage of anesthesiologist shortage of nurses / loss of well-trained operating theater veteran nurses.
- 9- No outside contact.
- 10- Overwork.
- 11- HIV/AIDS: unsafe surgery in era of HIV pandemic.

- 12- Generalized poverty/ economic constraints.
- 13- Lack of appropriate/specialized equipments / instruments.
- 14- Poor maintenance of available equipment.
- 15- Poor or lack of specialized investigations e.g. CT SCAN, MRI ETC.
- 16- Shortage of consumables .
- 17- Lack of communication facilities/knowledge .
- 18- Shortage of blood supply.
- 19- Absence of high care ward.
- 20- Fluctuating power supply.
- 21- Lack of funds for research.

Recommendations to prevent and solve V.V.F problem:

- The existing cases of VVF in these communities should be repaired , and adequate measures taken to ensure their rehabilitation and reintegration back into the society.
- Future cases of VVF, should be prevented and controlled through preventing the occurrence of marriage before 18 yrs.
- Awareness creation and public enlighten on the dangers of early marriage, the importance of ante natal services, as well as, hospital delivery.
- Acceptability and accessibility to modern health facilities should be enhanced.

•Groups, such as Mother-in-Laws, Grand Mothers, as well as, men should be given special focus. This still assist in creating a much more supportive environment, for the women in the household.

•There is need for the creation of more VVF Repair Centers, as well as , the training of Doctors and Nurses to these facilities. This will control the problem of distance and accessibility, as well as, knowledge of existing services.

•The Cost of VVF Repairs should be subsidized through the establishment of a National VVF Fund



ANATOMICAL ASPECTS AND AETIOLOGY

Sohier Elneil

Anatomy

To understand the complexity of urogenital tract fistulas, one needs to first comprehend the intricate anatomy of the pelvic floor. The pelvic floor is made up of the pelvic diaphragm, the urogenital diaphragm (present over the anterior pelvic outlet below the pelvic diaphragm) and the perineal body. The pelvic diaphragm is made up of the levator ani (made up of the pubococcygeus and iliococcygeus muscles) and coccygeus muscles that are attached to the inner surface of the pelvis. With their corresponding muscles from the opposite side, the diaphragm is thus constituted. The inner border forms the margin of the levator (urogenital) hiatus, through which passes the urethra, vagina, and ano-rectum. All these muscles are innervated primarily from the third and fourth sacral nerve roots via the pudendal nerve. Attached to the perineal body, a pyramidal fibromuscular structure between the anus and vagina, are the rectum, part of the vagina, perineal muscles, and the anal sphincter. It is during childbirth that the perineal body distends and then recoils. This elasticity is critical to maintaining intact organs and an intact pelvic floor. The close proximity of all these structures to each other, and the complex interaction between them, makes them particularly prone to damage during obstructed labour, a significant aetiological factor of urogenital tract fistulas. In essence, failure of efficient elasticity means these structures are more liable to damage.

Urogenital Fistula Aetiology

Obstetric fistulas usually arise as a consequence of prolonged obstructed labour that occurs as a result of cephalo/foeto-pelvic disproportion. The presenting part of the foetus becomes lodged in the pelvis, thus compressing all the genital tract tissues and the pelvic floor between two bony plates of the sacrum and the pubic bones. This in turn occludes the blood supply to the affected tissues, which then slough off to create the abnormal communication between the vagina and the bladder and/or rectum, leading to a fistula (Figure 1).

Cephalo/foeto-pelvic disproportion is due either to an underdeveloped pelvis (e.g.

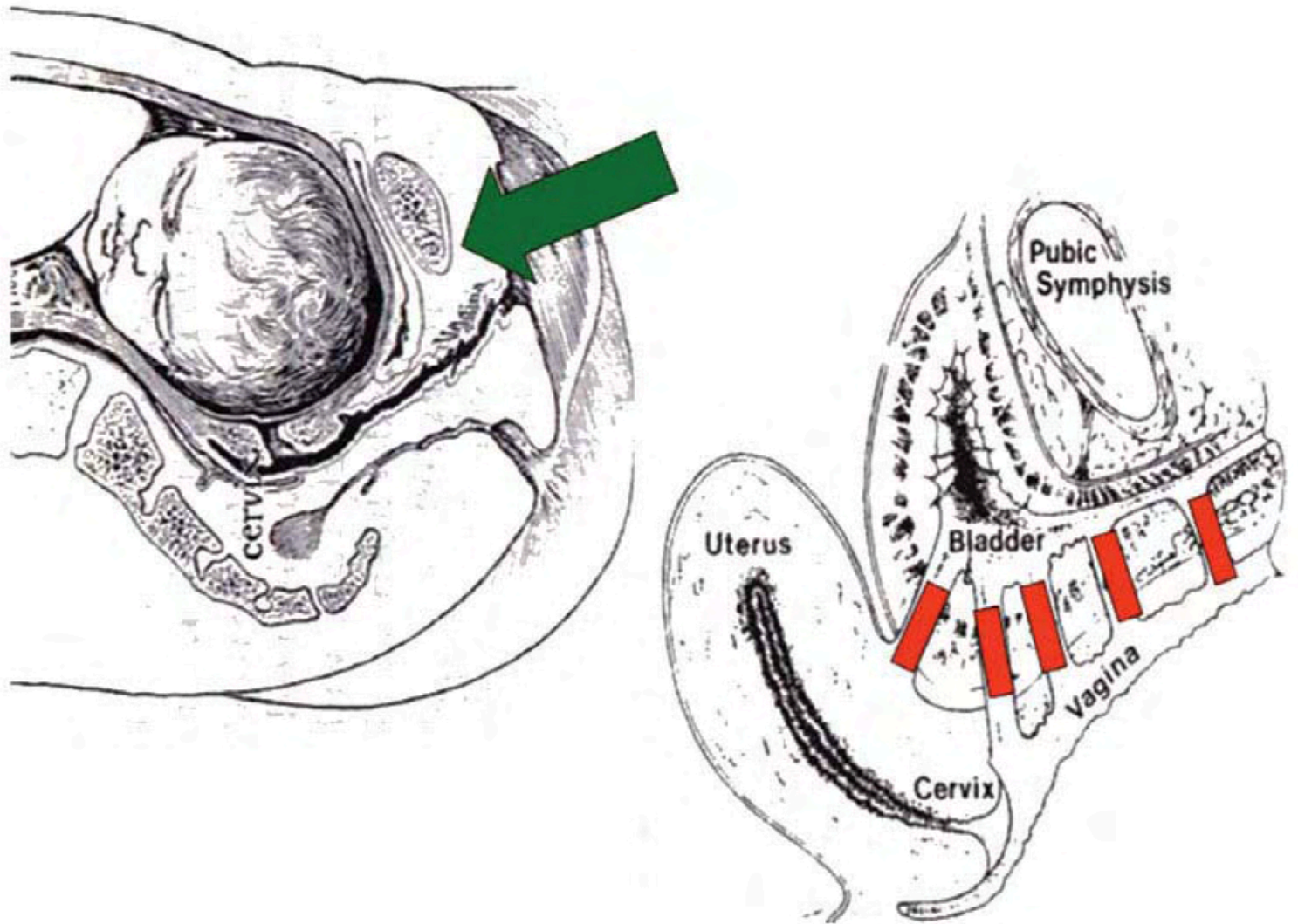


Figure 1: The foetal head is forced into the pelvis, compressing the bladder, urethra, and other soft tissues between the foetal head and the pelvic bones. This leads to tissue ischemia and then tissue necrosis, with the eventual formation of a fistula. The red areas show the possible sites of a vesico-vaginal/cervical/uterine fistula (adapted from Elkins 1994).

Obstetrical Fistula Classification

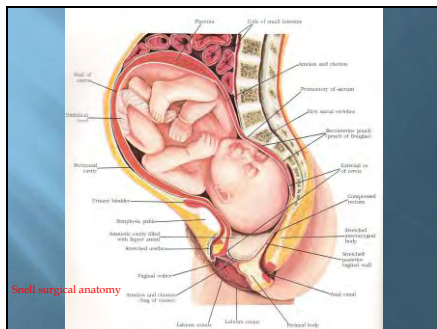
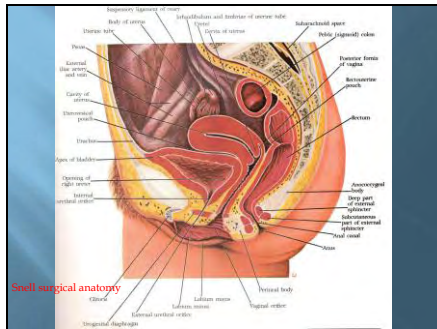
Edward Stanford MD MS FACOG FACS
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Classification of Fistulae

- Critical to standardize repairs and compare outcomes between centers
- Over 24 systems to classify obstetrical fistulae have been published
- Currently, 2 systems are used most commonly
 - Goh 2004
 - Waaldijk 1995

ANATOMY PERTAINING TO VESICOVAGINAL FISTULA

Hassan Shaker, M.D. MSc.
Ain Shams University

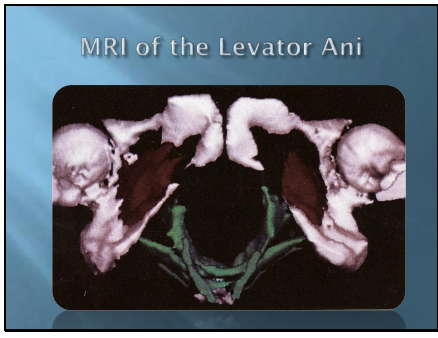


Anatomy of pelvic support

- ▣ Muscular support:
Pelvic diaphragm.
- ▣ Fascial support:
Endopelvic fascia.

I) Muscular support: Pelvic Diaphragm

- ▣ Levator Ani
 - Pubo-coccygeus
 - Ilio-coccygeus
 - Ischio-coccygeus
- ▣ Coccygeus



II) Fascial Support: Endopelvic fascia

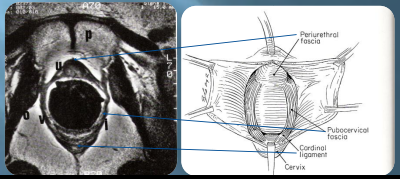
- ▣ Pubo-urethral
- ▣ Urethro-pelvic
- ▣ Vesico-pelvic (Pubo-cervical)
- ▣ Cardinal.

Endopelvic fascia

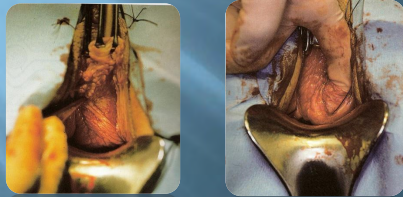
- ▣ 1) Pubo-urethral
- ▣ 2) Urethro-pelvic

Endopelvic specialized fasciae. Cont.

- 3) Vesico-pelvic fascia.
- 4) Cardinal ligament.



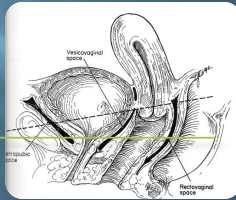
The Urethro-pelvic Fascia



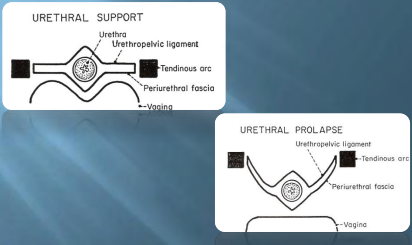
Physiology of female continence

•Proximal Half of the urethra:
•Intra-abdominal
•passive continence

•Distal half of the urethra:
•Area of sphincteric activity
•Active continence



Defects in the pelvic fasciae: 1) Urethro-pelvic fascia

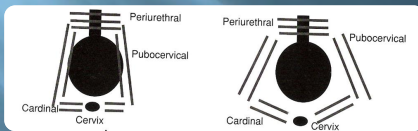


Defects in the pelvic fasciae: 2) Vesico-pelvic fascia

- 1) Central Defect:
 - Bladder herniation in midline
- 2) Lateral defect (Para-vaginal):
 - Sliding hernia of both the bladder and vesico-pelvic fascia.
- 3) Combination (most common):

Defects in the pelvic fasciae: 3) Cardinal ligaments

- Uterine prolapse
- Cystocele



Vaginal Fistula: Epidemiology and Quality of Life Perspectives

Sohier Elneil

Genital tract fistula is a problem commonly encountered in the developing world that affects young women during pregnancy and the labour process, resulting in debilitating urinary and/or faecal incontinence. Historically many women suffered this predicament in Europe and the United States of America, until the middle of the last century. However, with social, economic and health development this problem all but disappeared in the developed world but still poses a major problem in Africa and Asia [1, 2]. Access to modern obstetric care, including caesarean sections, can be limited on these continents. Over the course of a lifetime, 1 in 12 women in Africa will die in pregnancy or labour, particularly in the rural areas [3]. This is a phenomenal figure and akin to three jumbo jets, full of passengers, crashing fatally every 24 hours. More startlingly, for every woman that dies in labour, at least 20 lives are destroyed by terrible injuries sustained during obstructed labour. Long distances combined with high cost of care, and poor nutrition make women more vulnerable to obstetric fistulas, particularly in West Africa [4], the horn of Africa [5] and the Indian sub-continent [6-8].

POSTPARTUM TRAUMA AND GENITAL TRACT FISTULAS

In the developing world early identification of a postpartum or perineal trauma problem soon after childbirth is vital. In many cases, pelvic floor and perineal damage sustained during childbirth can be repaired effectively, if identified and treated as soon as possible. But, when neglected it can lead to debilitating pain, chronic infection and other long-term complications such as faecal and urinary incontinence. In severe cases, the damage can be so severe that a genital tract fistula, an abnormal communication between the vagina and the surrounding pelvic organs, can result.

Social and economic development in the developed world meant that fistulas are no longer a significant cause of morbidity in the post-partum period, but unfortunately, obstetric fistulas still pose a major problem in Africa and Asia [1, 2]. A tremendous disparity exists between risks associated with pregnancy and labour faced by women

in the developing world compared to women from wealthier nations. Over the course of a lifetime, 1 in 30, 0000 Scandinavian women will die in pregnancy or labour, whereas 1 in 12 will die in Africa, particularly in the rural areas [3]. Furthermore, for every woman that dies in labour, at least 20 lives are destroyed by terrible injuries sustained during obstructed labour. Using the 1:20 ratio, it is estimated that there are up to 2 or 3 million cases of obstetric fistula, still awaiting treatment. This is a conservative estimate by all accounts.

Long distances combined with high cost of care, and poor nutrition make women more vulnerable to obstetric fistulas, particularly in West Africa [4], the horn of Africa [5] and the Indian sub-continent [6-8].

The main treatment for all types of fistulas remains surgery which is carried out under meticulous circumstances. The success of the repair is not only dependant on good surgery, but also on excellent nursing care and prevention of complications [8[9-11]. However, the number of capable and dedicated surgeons remains a major stumbling block in the management of these patients, as well as a lack of consensus on fistula classification, which affects the appropriate treatment of patients, prognostic evaluation and literature reporting; working in isolation and variable care practices; and little or no evidence based medicine in decision making. In addition, training in fistula surgery is often patchy, inadequate and unfocussed. But most importantly, there is no way to assess trainees or determine their suitability. As a consequence, outcomes for some patients have been very poor indeed.

In the last two years, two highly significant unifying global initiatives were undertaken. The first was by the Federation of Gynaecology and Obstetrics, (FIGO), an international multi-disciplinary body of obstetricians and gynaecologists, who are trying to standardise training and provide an evidence-based training course; and the second was the formation of the International Society of Obstetric Fistula Surgeons (ISOFS), who want to unify surgeons from all over the world in adopting the same

strategy in classification, training and education. This work has been done in conjunction with the UNFPA, WHO and other non-governmental organizations.

Using the agreed information, provided by the fistula surgeons, they were able to formulate and develop learning tools, log-books and objective structured assessments of technical skill for each module. This is the first time such an initiative has been developed for a specific internationally recognised health problem. Using the manual will not only provide a guide to surgical training, but also initiate audit of surgical outcomes thus facilitating research in the field and promoting publication in the medical and nursing literature.

The new way forward in obstetric fistula management is following in the foot step of many other dedicated doctors, nurses and philanthropists in the past. Though, the objectives are to unify the fistula community, develop standardised training programmes, and improve outcomes it must not be forgotten that this condition is completely preventable. Therefore, the issues which are the basis for it, social and economic development of 'at risk' girls/women, need to be tackled. This includes universal access to emergency obstetric services, improving medical care and instituting appropriate integrated social, economic and cultural development programmes. This would effectively prevent the problem. In the long-term, social and economic development will be more cost-effective than medical treatment, but more importantly, it will be highly sustainable. In the interim period, a holistic approach to medical and surgical treatment, rehabilitation and follow up in the community would be the most appropriate.

EPIDEMIOLOGY

There is a significant problem in that we do not have any idea of how prevalent the problem is. Epidemiological studies on obstetric fistula remain inadequate. At the SIU in Marrakech in October 2010, the International Consultation on Vesico-vaginal fistula was undertaken. It was here that the literature was reviewed and the issues regarding the epidemiology of this condition were studied. There was a paucity of literature, but the main study findings were:

- They are mainly institutionally-based, retrospective cases series, often written from the perspective of a single fistula surgeon
- The geographical coverage of epidemiological reports is uneven
- However, better and more relevant information is emerging.

The major risk factors appear to be age at first marriage, short stature, pregnancy with a male child rather than a female child, failure to attend ante-natal care, low socio-economic status, low social class, lack of employment and illiteracy.

The impact of fistula on the women were devastating and included divorce, social isolation, worsening poverty, malnutrition, sexual dysfunction, mental illness, insomnia, general ill health and thoughts of worthlessness and suicide.

Documentation of the patient's obstetric history was poor, and in most cases there was little or no documentation of the patient's labour history. There is doubt that health services were often lacking.

Recommendations to improve on this difficult situation included the promotion of community-based epidemiological studies, the use of standardised collection tools, the use of observational studies and research that identifies the different profiles of women who manage to overcome the obstacles and successfully access health care, compared to those who do not.

CONCLUSION

Genital tract fistulas remain a significant problem in the developing world. We need more information about the women suffering this condition, to understand how to better impact and improve on their quality of life. We need to engage the women, their families, their society and their governments to help treat the current problem, but more importantly to prevent it in future generations.

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PREVENTION STRATEGIES FOR OBSTETRIC VESICO-VAGINAL FISTULA

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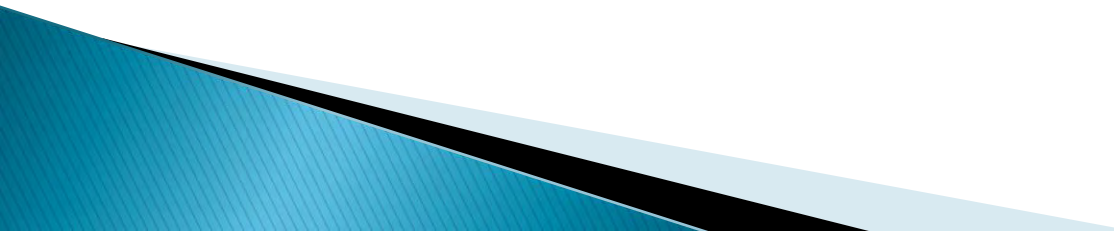
International Continence Society Conference, Glasgow – 2011

WHAT IS OBSTETRIC VESICO-VAGINAL FISTULA?

- ▶ Refer to video recording

WHY PREVENTION?

Refer To video



Facilitating causes



Facilitating Causes



Facilitating causes



Facilitators of poor MH



Facilitating Causes



PREVENTION STRATEGIES 1



PREVENTION STRATEGIES-2



PREVENTION STRATEGIES-3



PREVENTION STRATEGIES-4



PREVENTION STRATEGIES-5



PREVENTION STRATEGIES-6



PREVENTION STRATEGIES -7



The End

- ▶ Thank you for your attention!
- ▶ Any Questions / Clarifications / Comments?