AUGS Global Health SIG: Evaluation and treatment of vesicovaginal and rectovaginal fistulas in lower resource settings
Learning Objectives

• Identify how to diagnosis and evaluate VVF and RVF in lower resource settings

• List the management and treatment options for VVF and RVF in lower resource settings

• Identify the long-term care needs of VVF and RVF patients in lower resource settings
Faculty

- Saifuddin T. Mama, MD MPH - Cooper Medical School of Rowan University
- Star Hampton, MD - Warren Alpert Medical School of Brown University
- Blair Washington, MD MHA - Virginia Mason Hospital & Seattle Medical Center
- Peter Jeppson, MD - University of New Mexico Health Sciences Center
- Chi Chiung Grace Chen, MD MHS - Johns Hopkins University
- Joan Blomquist, MD - Greater Baltimore Medical Center
- Rahel Nardos, MD - Oregon Health and Science University
- Robert Gutman M.D. - Georgetown University School of Medicine
Course Outline

• Overview of VVF and RVF - Saifuddin T. Mama 20 min
• Outpatient evaluation, including anesthesia & surgical leveling of VVF and RVF patients in lower resource setting - Joan Blomquist 20 min
• Abdominal & combined abdominal-vaginal approach to VVF repair - Star Hampton 20 min
• Vaginal approach to VVF repair - Grace Chi Chiung Chen & Robert Gutman 40 min
• Break 10 min
• Approach to ureteral reimplantation: extra peritoneal, intra-abdominal, extra vesical & intra vesical - Saifuddin T. Mama 20 min
• Approach to RVF repair - Blair Washington 20 min
• Postoperative and long-term care of VVF and RVF patients - Peter Jeppson 20 min
• Interaction with local fistula experts Rahel Nardos 20 min
• Panel VVF &RVF Audience Q & A 20 min
Disclosures

None
Overview of VVF & RVF - Ethical Considerations

• In providing medical aid in low resource settings, adherence to basic medical ethics principles and maintaining the same medical and ethical standards in the care of patients that we practice in the United States is essential

• Knowledge of and respect for the communities cultures, traditions and perception of health and disease along with exhibiting respect for the sovereignty of the host nation is equally important

• Transfer of knowledge and capacity building has to remain at the forefront throughout the mission

• Postoperative care - has to be a system in place with committed local doctors for short and long term postoperative care and collection of outcome data
Overview of VVF & RVF-Ethical Pitfalls

- Medical volunteers not skilled enough to do the evaluation, diagnosis or surgery
- Focus on training volunteer junior doctors from home displacing the local doctors
- Not supervising volunteer junior doctors on site
- Not involving and incorporating local doctors
- Perception of providing equipment in exchange for patients
- Undue burden on local facility-waste, resources diverted
- Trying an untested procedure
- Focus on numbers treated-body count
- No planned postoperative care and follow through
Overview of vesicovaginal and rectovaginal fistula

• Definition: abnormal communication between 2 organs
• Etiology: obstetric complications, surgery, radiation, trauma, infection, malignancy and congenital malformation
• In low resource settings: main cause is unrelieved obstructed labor --> tissue compression --> hypoxia --> ischemia --> pressure necrosis --> development of fistula if patient survives; the infant is usually stillborn
• VVF & RVF often coexist in more severe cases of ischemia, incidence 10-15%
• Incidence VVF: 50,000-100,000 cases per year, 10-125/100,000 incidence
• Prevalence VVF: 1-2 million cases worldwide
• Age range in various studies: ages 9-68 reported, majority in their 20’s
• Average days in labor: 2.5-4 days

Retrograde fill bladder

Foley for traction to delineate the fistula

Skin bridge, loss of urethra
Rectovaginal fistula
Overview of VVF & RVF-Coexisting Morbidity

• Calculi/stone formation (2%)
• Vaginal stricture or stenosis
• Loss of anterior cervix
• Cervical stenosis leading to hematometra
• Bladder prolapse
• Loss of labia minora
• Severe scarring
• Urine dermatitis with hyperkeratosis and secondary ulceration
• Pressure ulcers from immobility
• Perineal nerve injury, loss of anal reflex
• Pubococcygeus damage
• Nerve injury with motor weakness, L5 nerve root compression with leg drop
• Limb contractures from immobility
Bladder stone (9 cm)

Bladder stone eroding through urethra, bladder, anterior vaginal wall, posterior vaginal wall & into the rectum

Bladder stones
Loss of anterior cervix
Dermatitis
Overview of vesicovaginal and rectovaginal fistula

Characteristics of fistula patients’ (marginalised & ostracized):

• Young age
• No prenatal care
• First pregnancy
• Young maternal age at first delivery
• Stillbirth
• Malnutrition
• Short stature
• Poor
• Illiterate or low educational level
• Manual labor
• Dependency

• Sexual assault
• High divorce rate or abandonment
• Cultural practices ("gishiri cutting")
• Rural environment distant from healthcare facilities
• Lack of accessible transportation
• Financial constraints
• Delayed decision making towards transport to health care facilities
• Lack of skilled healthcare providers
• Iatrogenic injury during cesarean section

Hancock, B. Practical obstetric fistula surgery. London: Royal Society of Medicine Press, 2009
Sponge left within the bladder in patient with separate abdominovesical and vesicovaginal fistula after cesarean delivery
Overview of vesicovaginal and rectovaginal fistula

• Significant barriers to full recovery remain even after successful repair: continuing stress or urge incontinence (15-25%), vaginal stricture and stenosis, dyspareunia, infertility
• Patients live with social stigma and physical and psychological pain
• Psychosocial factors: Decreased libido, unhappy conjugal life, social embarrassment, sense of impurity, limitation in performing prayers, mental health dysfunction with severe depression and suicidal ideation
• The first repair is the best repair, success rates vary (80 to 95%) and completely dry rates are 70 - 80%
• Repeat operations are always less successful, success rates being 60-90%
• Excellent exposure (Schuchardt incision), wide mobilization, restoration of normal anatomy, protection of the ureters, tension-free closure are key elements
• Diversion as an option for otherwise inoperable patients is uncommon
Adequate exposure, wide mobilisation
Classification & types of vesicovaginal fistula

- Factors that influence classification:
  - Site: juxtaurethral (UVJ), mid vaginal, juxtacervical (missing anterior cervix), intracervical (post C/S), circumferential
  - Size: small, medium, large, extensive
  - Scarring: minimal to rigid and fixed
- Goh classification:
  - Urethral length
    Type I: Distal edge fistula > 3.5 cm from external urethral orifice (EUO)
    Type 2: Distal edge 2.5-3.5 cm from the EUO
    Type 3: Distal edge 1.5-2.5 cm from the EUO
    Type 4: Distal edge < 1.5 cm from the EUO
  - Fistula size
    < 1.5 cm
    1.5-3 cm
    > 3 cm
  - Scarring
    I: No or mild fibrosis, vaginal length > 6 cm
    II: Moderate or severe fibrosis, reduced vaginal length
    III: Special considerations-circumferential fistula, involvement of ureteric orifices

Classification & types of vesicovaginal fistula

Waaldijk classification:

- I-not involving the closing mechanism, small medium or large, > 5 cm from the EUO
- IIAa-involving the closing mechanism, without total involvement of urethra, without a circumferential defect
- IIAb-involving the closing mechanism, without total involvement of urethra, with a circumferential defect
- IIBa-involving the closing mechanism with total involvement of the urethra (urethra < 1.5 cm), without a circumferential defect
- IIBb-involving the closing mechanism, with total involvement of the urethra (urethra < 1.5 cm), with a circumferential defect
- III-ureterovaginal fistulas, or minimal bladder or urethra remains

Complex vesicovaginal fistula
Wide mobilization bladder off the sidewall, stent visible within bladder, fistula far larger than it first appears.
Loss of urethra, cervix nonvisible, extensive scarring, wide mobilization anteriorly and laterally
Overview of vesicovaginal and rectovaginal fistula

Prognostic indicators for successful VVF repair:

- Length of urethra
- Size of fistula
- Location of fistula
- Size of the bladder
- Degree of scarring

Equipment: Avaurd speculum with short and long vaginal blades, Lone Star retractor, high quality dissecting scissors (Metzenbaum, Tenotomy, Thorek), forceps (Gerald’s, DeBakey), Allis forceps, fine hemostats, metal probes, #15 blade, narrow malleable, needle drivers—short and long, absorbable suture (2-0, 3-0, 4-0) on RB1, SH, GU and CT 2 needles, portable headlight