

Characteristics of Genitourinary Fistula in Kigali, Rwanda; 5-Year Trends

Lee A Richter¹, Harry Lee², Arlene Nishimwe³, Lysa Niketa³, Stephanie Kielb⁴

¹MedStar/Georgetown University Hospital, Washington, DC, ²Georgetown University School of Medicine, Washington, DC, ³Kibagabaga District Hospital, Kigali, Rwanda, ⁴Northwestern University Feinberg School of Medicine, Chicago, IL

Introduction/Background

- Genitourinary (GU)fistula is a devastating condition that can result from difficult vaginal deliveries or as a surgical complication.
- This abnormal connection between the vagina and bladder and/or ureters can result in continuous incontinence of urine.
- The societal impact of fistula in developing countries where women have less access to appropriate surgical care is devastating
- Rwanda has seen notable increases in cesarean section rates as a result of a successful universal health care system with dedicated efforts to improve maternal health.
- An increase in cesarean section rates in other countries has been shown to increase vesicouterine, ureterovaginal, and fistulas involving the cervix, but this has not been evaluated previously in Rwanda.

Objectives

- To assess the characteristics of women presenting with genitourinary fistula over a 5-year period in Kigali, Rwanda
- To determine the changing trends in the etiology and management of GU fistula in this population

Methods

- Cross-sectional study of women presenting for evaluation to the International Organization for Women and Development in Kigali, Rwanda, between February 1, 2013 and October 31, 2017.
- Data were collected from medical records
 - Demographics
 - Surgical and obstetric history
 - Type of fistula uterine, cervical, or ureteral (Upper) or vesicovaginal (VVF)
 - Physical exam findings
 - Surgical intervention
- Case report data were manually transcribed from IOWD mission records into Microsoft Excel by 2 independent data entrants.

Table 1. Prior history of C-section in those with vesicovaginal fistula compared to those with vesicouterine, vesicocervical, or ureterovaginal fistula (P<.0001)

	2013	2014	2015	2016	2017	Total
Vaginal Fistula	128	85	49	72	58	392
Hx C section	52 (40.6%)	46 (54.1%)	17 (34.7%)	39 (54.2%)	25 (43.1%)	179 (45.7%)
Upper Fistula	54	45	37	54	48	238
Hx C Section	39 (72.2%)	28 (62.2%)	23 (62.1%)	51 (94.4%)	44 (91.7%)	185 (77.7%)

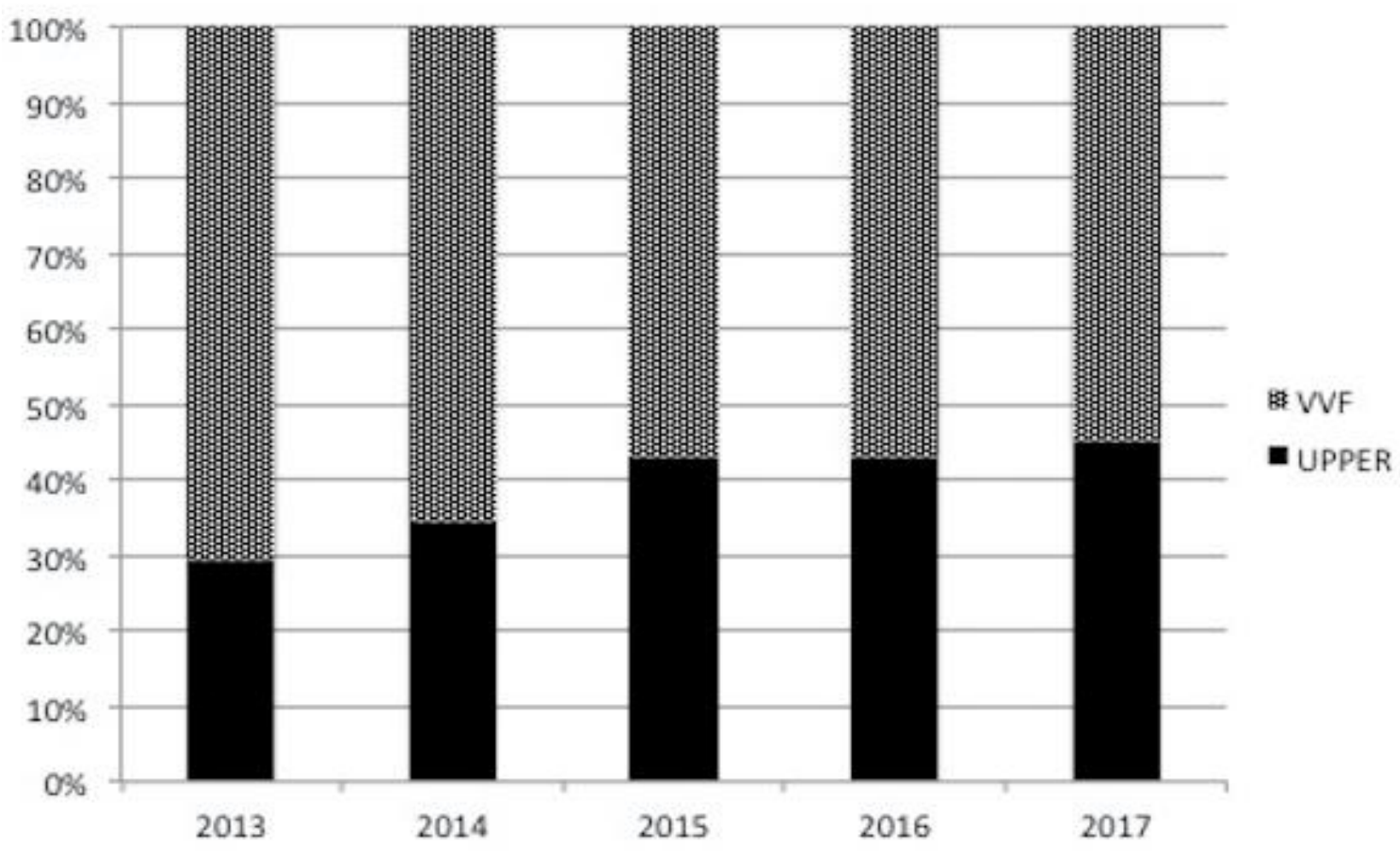
Results

- 2, 191 women presented for evaluation during the study period
 - 630 (30%) were diagnosed with GU fistula
- Proportion of upper fistula significantly increased over the study period (Figure 2.)
- Women with a history of cesarean section were 11.37 times more likely to develop a fistula than women without a history of cesarean section
- Cesarean section rate among women presenting with upper fistula was significantly higher as compared to those with lower fistula (77.7% vs 45.7%) P<.0001
- 259 fistula repairs were performed 49% vaginal and 51 % abdominal
 - Upper fistula always required abdominal approach and 78% required hysterectomy vs. 1 % of vaginal repairs

Conclusions

- There was a significant increase in the proportion of vesicouterine, vesicocervical, and ureterovaginal fistula presenting in Rwanda over the 5-year period.
- The majority of upper fistula occurred after caesarian section.
- The percent of GU fistula that involved the ureter, uterus, and/or cervix significantly increased over the time period.
- Further research is needed to determine whether this is due to improvements in access to care, changes in the way providers are managing obstructed labor, and/or due to deficiencies in surgical technique or resources.

Figure 2. Proportion of upper fistulas compared to VVF over study period (P=.03)



How would you describe the importance of your work to a lay person with no background in population health?

- Improved access to reproductive and maternal healthcare, particularly increased rates of caesarian sections, may influence the presentation and types of fistula diagnosed in Rwanda.
- This data has been shared with the Rwandan Ministry of Health , IOWD continues skills training of Rwanda physicians in surgical technique for cesarean section
- The long-term goal of this research is to develop sustainable interventions to prevent and treat GU fistulas in Rwanda other developing countries with limited access to appropriate surgical care.