UROVAGINAL FISTULA IN TERTIARY HOSPITAL OF WEST JAVA INDONESIA

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ABSTRACT

Objective: *This study was conducted to find out the frequency and characteristics of urovaginal fistula patients.* ***Material & Methods****: This study design used a retrospective descriptive research design conducted at a tertiary hospital in West Java, Indonesia (Hasan Sadikin General Hospital) from 1 January 2010 to 31 December 2016.* ***Results:*** *Of all 22 urovaginal fistula patients, the majority in the age range of 41-50 years, and there was one patient in the age range of 61-70 years. Fourteen patients (63.6%) had defects in the bladder, and 36.5% of patients had defects in the ureters. There were nine patients (40.9%) who had urovaginal fistula after undergoing a hysterectomy procedure. The other causes were cervical carcinoma (40.9%), difficult labor (9.1%), radiotherapy (4.5%), carcinoma rectum (4.5%), cesarean section procedure (9.1%), and other gynecological procedures such as myomectomy or cystectomy (9.1%). Based on the type and location of the fistula, the majority of patients had vesicovaginal fistula/VVF (59%), ureterovaginal fistula/UVF (36%), and a combination of ureterovesicovaginal fistula (5%). The causes of VVF and UVF are different from each other. In patients with VVF, the most common cause is cervical carcinoma (35.7%). Meanwhile, the most common cause of UVF is hysterectomy (75%).* ***Conclusion:*** *Of the various types of urovaginal fistulas, vesicovaginal fistulas are the most frequently encountered. In general, the characteristics of urovaginal fistula patients in Hasan Sadikin General Hospital is slightly different from the literature, especially the cause of fistula. At Hasan Sadikin General Hospital, vesicovaginal fistulas are mostly caused by cervical cancer, not a hysterectomy. For ureterovaginal etiology, the characteristics of patients in Hasan Sadikin General Hospital are caused mainly by hysterectomy.*

Keywords: *Urovaginal fistula, vesicovaginal fistula, ureterovaginal fistula, complication.*

ABSTRAK

Tujuan: *Penelitian ini bertujuan untuk mengetahui frekuensi dan karakteristik pasien fistula urovagina.* ***Bahan & Cara:*** *Penelitian ini merupakan penelitian deskriptif yang dilakukan secara retrospektif terhadap pasien fistula urovaginal yang ditangani di RSUP Dr. Hasan Sadikin Bandung selama 1 Januari 2010 hingga 31 Desember 2016.* ***Hasil:*** *Dari 22 pasien yang menderita fistula urovagina, jumlah terbanyak pada rentang usia 41-50 tahun, dan terdapat 1 orang pada rentang usia 61-70 tahun. Empat belas pasien (63.6%) memiliki defek pada kandung kemih, dan 36.5% pasien memiliki defek pada ureter. Terdapat 9 pasien (40.9%) mengalami fistula urovagina setelah histerekstomi. Penyebab lainnya adalah karsinoma serviks (40.9%), partus lama (9.1%), radioterapi (4.5%), karsinoma rekti (4.5%), post section caesarea (9.1%), dan prosedur ginekologis lain seperti miomektomi atau sistektomi (9.1%). Berdasarkan tipe dan lokasi fistula, sebagian besar merupakan fistula vesicovaginal /VVF (59%), fistula ureterovaginal/UVF (36%), dan kombinasi fistula ureterovesikovaginal (5%). Penyebab VVF dan UVF berbeda satu sama lain. Pada pasien VVF, penyebab tersering adalah karsinoma serviks (35.7%), sedangkan penyebab terbanyak UVF adalah histerektomi (75%).* ***Simpulan:*** *Dari berbagai jenis fistula urovagina, fistula vesikovaginal merupakan yang paling sering terjadi. Secara umum, karakteristik pasien fistula urovaginal di RSUP Dr. Hasan Sadikin Bandung sedikit berbeda dengan literatur, terutama dalam hal etiologi. Di RSUP Hasan Sadikin, fistula vesikovaginal paling banyak disebabkan oleh kanker cervix, bukan oleh histerektomi. Untuk etiologi fistula ureterovaginal, karakteristik pasien di RSUP Dr. Hasan Sadikin paling banyak disebabkan histerektomi.*

Kata Kunci: *Fistula urovaginal, fistula vesikovaginal, fistula ureterovaginal, komplikasi.*

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INTRODUCTION

Urovaginal fistula is a condition where there is an abnormal channel between the vagina and the urinary tract, most often with a bladder. Still, it can also occur at the urethra or ureter. Two million women around the world experience untreated fistulas, and 95% are from developing countries.

Gynecological surgical procedures are the most common cause of urovaginal fistula formation.[1-3] Hysterectomy is the most common cause of this complication.[4-5] It is difficult to explain with certainty why hysterectomy is the most common cause. Still, the short distance between the urinary tract and the distal part of the uterus has a role in this mechanism.

Urovaginal fistula consists of vesicovaginal fistula, ureterovaginal fistula, vesicouterine fistula, and urethrovaginal fistula. Fistulas between the bladder and vagina are the most common type of fistula.[6-8] Although rare, urovaginal fistulas cause morbidity and significantly affect patients' quality of life. Continual wetness, odor, and discomfort cause social problems.

OBJECTIVE

This study was conducted to find out the frequency and characteristics of urovaginal fistula patients.

MATERIAL & METHODS

The subjects of this study were all patients with urovaginal fistula who treated at Hasan Sadikin General Hospital within a predetermined time (from 1 January 2010 to 31 December 2016). This study used a retrospective descriptive research design. The study was conducted at Hasan Sadikin General Hospital from 1 January 2010 to 31 December 2016. The data collected were classified by age, cause, type of fistula, and procedure. The recapitulated data is then processed using software, and results are presented in tables.

RESULTS

There were 22 urovaginal fistula patients within seven years, the majority in the age range 41-50 years, and there was one patient in the age range of 61-70 years. From a total of 22 patients, one patient has more than one defect in the same organ. Fourteen patients (63.6%) had defects in the bladder, and 36.5% of patients had defects in the ureters.

Table 1. Age range of patients with urovaginal fistula.

Age range	N	Percentage (%)
30-40	7	31.82
41-50	12	54.54
51-60	2	9.09
61-70	1	4.54

The most common cause of urovaginal fistulas in Hasan Sadikin General Hospital was a hysterectomy. There were nine patients (40.9%) who had urovaginal fistula after undergoing a hysterectomy procedure. Other causes found were cervical carcinoma (40.9%), difficult labor (9.1%), radiotherapy (4.5%), carcinoma rectum (4.5%), cesarean section procedure (9.1%), and other gynecological procedures such as myomectomy or cystectomy (9.1%).

Table 2. Causes of Urovaginal Fistula.

Causes	N	Percentage (%)
Hysterectomy	9	40.9
Cervical Cancer	5	22.7
Difficult labor	2	9.1
Radiotherapy	1	4.5
Carcinoma rectum	1	4.5
Sectio Caesarea	2	9.1
Other gynecological procedure	2	9.1

Based on the type and location of the fistula, the majority of patients had vesicovaginal fistula / VVF (59%), ureterovaginal fistula / UVF (36%), and a combination of ureterovesicovaginal fistula (5%). The causes of VVF and UVF are different from each other. In patients with VVF, the most common cause is cervical carcinoma (35.7%). Meanwhile, the most common cause of UVF is hysterectomy (75%).

Table 3. Etiology VVF dan UVF.

Etiology	N	Percentage (%)
VVF		
Hysterectomy	3	21.4
Cervical Cancer	5	35.7
Difficult labor	2	14.3
Radiotherapy	1	7.1
Carcinoma rectum	1	7.1
Sectio Caesarea	2	14.3
UVF		
Hysterectomy	8	75
Other gynecological procedure (myomectomy and cystectomy)	2	25

In patients with vesicovaginal fistulas, half undergo reconstruction procedures, while others undergo biopsy and nephrostomy. Management

performed on the subject was transvaginal fistula reconstruction in 57.14% of patients and transvesica fistula reconstruction in 42.86%.

DISCUSSION

There were 22 patients with urovaginal fistula in this study. The majority age of patients is between 41-50 years. Vesicovaginal fistula is the most common fistula, which is 59%. These results are similar to studies conducted by Singh et al., which state that the median age of vesicovaginal fistula patients is 45 years, and vesicovaginal fistula is the most commonly found urovaginal fistula.[1] Cause of vesicovaginal fistula in our center was cervical cancer. It was slightly different from the literature. This happened because of the high incidence of patient with advanced cervical cancer in Hasan Sadikin General Hospital.

In this study, cases of ureterovaginal fistula (UFV) constituted 36% of all fistula cases. All causes of UFV are obstetric and gynecological procedures. In this study, hysterectomy was the most common cause (75%), followed by other causes (25%). These results are similar to studies conducted by De Ridder in 2011, which stated that gynecological procedures are the leading cause of UFV.[7] Injury to the ureter is one of the risks of any abdominal and pelvic surgical procedures, including laparoscopy and ureteroscopy. Ureters are prone to injury, especially during vascular, gynecological, urological, and colon procedures.[9] Gynecological procedures are still the leading cause of ureteric injuries; total abdominal hysterectomy is the operation that most often causes ureteral injury. Analysis of 13 published studies concludes that the following procedures contribute to iatrogenic ureteral injury: hysterectomy (54%), colorectal surgery (14%), pelvic procedures such as removal of ovarian tumors (8%), transabdominal urethropection (8%), and abdominal vascular surgery (6%). The total incidence of ureteral injury after gynecological procedures was reported as 0.5% -1.5% and after colonic resection per abdomino-perineal as much as 0.3% -5.7% .[8]

This study's limitation is the small sample size, so researchers cannot conduct adequate analytical studies. Also, no follow-up after the fistula reconstruction was performed at our hospital, so there are no data regarding postoperative complications.

CONCLUSION

Of the various types of urovaginal fistulas, vesicovaginal fistulas are the most frequently encountered. In general, the characteristics of urovaginal fistula patients in Hasan Sadikin General Hospital is slightly different from the literature, especially the cause of fistula. At Hasan Sadikin General Hospital, vesicovaginal fistulas are mostly caused by cervical cancer, not a hysterectomy. For ureterovaginal etiology, the characteristics of patients in Hasan Sadikin General Hospital are mostly caused by hysterectomy.

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