ORIGINAL ARTICLE

Indonesia Journal of Biomedical Science (*IJBS*) 2021, Volume 15, Number 1: 48-50
P-ISSN.2085-4773, E-ISSN.2302-2906

Published by
Indonesia Journal of Biomedical Science

Prevalence of urogynecology fistula in Cipto Mangunkusumo National Hospital from 2011-2017

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Received: 2021-02-26
Accepted: 2021-04-30
Published: 2021-05-15

ABSTRACT

Background: Genitourinary fistula is a condition that is quite common in developing countries due to the improvement of the health care system, especially the delivery service system and operating techniques. Vesicovaginal fistulas are the most frequently found type of fistula. In developing countries, the most common causes are gynecological surgery, radiotherapy, severe pelvic pathology events.

Methods: This study is a descriptive observational study with a cross-sectional approach, namely by assessing age, etiology and the distinction between old cases or new cases. This study's data were secondary data from medical records collected retrospectively of all patients diagnosed with an urogynecology fistula at Cipto Mangunkusumo General Hospital in the period of 2011 to 2017.

Results: From the data collected, there were 109 cases of urogynecology fistulas from year 2011 to 2017 in Cipto Mangunkusumo General Hospital with 46 years old. The most common type of urogynecology fistula is the vesicovaginal fistula where the majority are iatrogenic due to complications from gynecological obstetric surgery.

Conclusion: Urologynecological fistula is still a matter that needs special attention, especially in obstetrics and urology.

Keywords: genitourinary, prevalence, urogynecology fistula, vesicovaginal fistula.
Cite this Article: Rodjani, A., Sandy, N.J. 2021. Prevalence of urogynecology fistula in Cipto Mangunkusumo National Hospital from 2011-2017. *IJBS* 15(1): 48-50. DOI: 10.15562/ijbs.v15i1.292

INTRODUCTION

Genitourinary fistula is a condition that is quite common in developing countries due to especially the delivery system and surgical techniques.[1] WHO defines this incident as an abnormal tube that connects the vagina and bladder and/or rectum which can cause leakage of urine or feces in the patient continuously. There are several classifications of fistulas, but the most frequent fistulas incidence is vesicovaginal, rectovaginal and uterovaginal.[1] Currently, the prevalence of genitourinary fistula is nearly 100,000 cases.[2,3] Meanwhile, WHO shows that there are 0.13 million new cases each year. The most frequent occurrence is in India, although the details are not known.[4]

There are several types of fistulas, namely vesicovaginal and ureterovaginal. Vesicovaginal fistula is an abnormal epithelial or fibrous connection between the bladder and the vagina.[3] Vesicovaginal fistula is the most common among the other types. The vesicovaginal fistula's worldwide incidence is unknown, but it is about 0.3% -2% in developing countries. The main etiology is iatrogenic after surgery, about 81-91% and fistula develop mostly after gynecological surgery, radiotherapy, and severe pelvic pathology incidence according to data in the third world countries.[2] The most prevalent symptom of a vesicovaginal fistula is a painless involuntary leakage of urine from the vagina. Fistula can be intermittent (ureterovaginal fistula) or continuous (vesicovaginal fistula). Extravasation of intra-abdominal urine may result in abdominal pain and ileus.

The main therapy most often used is surgical repair, which can be performed either abdominal (open or minimally invasive) or vaginal. The advantages of abdominal therapy are short length of hospital stay, less blood loss, and decreased mobility.[5] In low-level areas, this incident is usually caused by poor labor facilities, resulting in prolonged and delayed labor.[1] The incidence of fistulas is related to social disorders such as divorce, failure to have sex with husband and wife, loss of fertility, amenorrhea and depression. Profoundly causing disruption to the quality of life. The purpose of this study was to determine the incidence rate of genitourinary fistula in Cipto Mangunkusumo Hospital during the last 7 years and to compare it with the incidence rate in previous studies.

The primary therapy used is surgical repair, which can be performed either abdominal (open or minimally invasive) or vaginal. The advantages of abdominal surgery are shorter length of hospital stay, less blood loss, and lower morbidity.[5] In low economic areas, the incidence of fistula is usually caused by poor labor facilities, resulting in prolonged and delayed labor.[1] The incidence of fistulas is also related to

social disorders such as divorce, failure to have sex with husband and wife, loss of fertility, amenorrhea and depression that profoundly disrupting the quality of life. The purpose of this study was to determine the incidence rate of genitourinary fistula in Cipto Mangunkusumo Hospital during the last 7 years and to compare it with the incidence rate in previous studies.

METHOD

This research is a retrospective study with a cross-sectional methodology, namely evaluating age, etiology and old or new events. The research was conducted at RSUPN Cipto Mangunkusumo in 2011-2017 The research population and sample were both patients diagnosed with urogynecology fistulas treated in Cipto Mangunkusumo National Hospital in 2011-2017 and fulfilled the inclusion and exclusion requirements.

The inclusion criteria were patients with urogynecology fistulas treated at Cipto Mangunkusumo General Hospital in 2011-2017 with complete medical record data for all the variables and had been diagnosed as urogynecology fistulas and in the medical record records all the variables studied were listed. Medical record data cannot be used or found.

This study's data were secondary data from medical records collected retrospectively on all patients diagnosed with urogynecology fistula at Cipto Mangunkusumo General Hospital in the period 2011-2017.

This study used secondary data from medical records collected retrospectively on all patients diagnosed with urogynecology fistula at Cipto Mangunkusumo General Hospital in the period 2011-2017. The collected data were tabulated, processed and presented descriptively in tables, diagrams and narrative. Numerical data were tested for normality distribution with Shapiro-Wilk (n<50) and Kolmogorov Smirnov (n>50), if the distribution is normal then the data will be reported in mean ± SD, otherwise in the median.

RESULT

Data were obtained from patients' medical records from December 2017 - February 2018 in the Cipto Mangunkusumo Hospital, and 109 subjects were taken as samples that met the inclusion and exclusion criteria.

Table 1. Distribution of age in study participant

Characteristics	Median (Minimum-Maximum)
Age	46 (4-71)

Table 2. Distribution of fistula types

Fistula Types	N (%)
Vesicovaginal	81 (74.3)
Ureterovaginal	17 (15.6)
Urethrovaginal	3 (2.8)
Vesicocutaneous	4 (3.7)
Vesicovaginal + urethrovaginal	3 (2.8)
Vesicovaginal + ureterovaginal	1 (0.9)

Table 3. Distribution of fistula etiologies

Etiologies	N (%)
Hysterectomy	36 (33)
Cervical cancer	31 (28.4)
Cesarean section	10 (9.2)
Prolonged labor	9 (8.3)
Bladder stone	3 (2.8)
Bladder tumor	3 (2.8)
Endometriosis cyst	3 (2.8)
Endometrium cancer	2 (1.8)
Ectopic ureter	3 (2.8)
Post-treatment on bladder disorders	2 (1.8)
Gestational trophoblastic disease	1 (0.9)
Uterine myoma	1 (0.9)
Urethral trauma	1 (0.9)
Percutaneous nephrostomy	1 (0.9)
Laparotomy	1 (0.9)
Post urogynecology sinus correction	1 (0.9)
Viral infection	1 (0.9)

Table 4. Type of Cases of study participant

Type of Cases	N (%)
New cases	80 (73.4)
Old cases	29 (26.6)

Table 1, shows the distribution of subjects' age and found the median for the age is 46 years old. The distribution of urogynecology fistulas by type in the study subjects are shown in the table 2, which were divided into six groups based on the organs involved, where the most urogynecology fistulas were found to be vesicovaginal, namely as many as 81 people (74.3%), followed by ureterovaginal as many as 17 people (15.6%), vesicocutaneous 4 people (3.7%), urethrovaginal and vesicovaginal with urethrovaginal both in 3 people (2.8%), and vesicovaginal with ureterovaginal in 1 person (0.9%) (Table 2).

Some of the etiologies of urogynecology fistulas can be seen in table 3, with the most common cause is hysterectomy which includes 33% of all other etiologies, followed by the next 3 causes of cervical cancer (28.4%), cesarean section (9.2%), and prolonged labor (8.3%). The urogynecology fistula cases are also

divided into new cases (73.4%) and old cases (26.6%) and can be seen in table 4.

DISCUSSION

Based on the age group distribution of urogynecology fistulas in table 1, it is found that the age range of patients is between 4-71 years with a median age of 46 years. In accordance with the thesis research conducted by Aswin Pranata in 2007 regarding fistula sufferers' characteristics, it was found that the most fistula epidemiology was in young women, especially those aged 20-30 years and> 35 years.[6] This is also in accordance with previous research conducted by Taufik Rahman in Cipto Mangunkusumo Hospital in 2008 where the incidence of fistulas occurred with an average age of 40 years.[6]

There is a tendency for the incidence of urogenital fistulas in young women, especially in developing countries with inadequate delivery facilities and low education, usually found in primiparous women who experience prolonged labor because it can injure the urinary tract. The incidence mostly happens in the patients with age over 35 years because urogenital fistula usually does not manifest within months, but long term until the onset of symptoms.[6,7,8] Based on the distribution of urogynecology fistulas, the most common types were vesicovaginal and ureterovaginal. This is in line with several other studies by Adler et al., which both state that the most frequent fistulas incidence is vesicovaginal, rectovaginal and uterovaginal.[1,8]

This is also in line with the most common causes and pathophysiology of fistulas, namely hysterectomy, which consist of 33%, where trauma, usually during surgery or prolonged labor, is the highest cause, such as trauma to the bladder during difficult hysterectomy or operative delivery of cesarean section can result in vesicovaginal fistulas. Most of the formation of vesicovaginal fistulas is during a large blunt dissection of the bladder when separating the bladder's lining, resulting in devascularization or unidentified tears in the posterior bladder wall. While other causes such as tumors/ malignancies and infections are less common, namely between 0.9-2.8%, and are usually recurrent or as a complication of therapy, such as radiation for years.[7,8] This is also the same as previous studies, where the most common cause is hysterectomy.[6]

CONCLUSION

This study found 109 cases of urogynecology fistula from 2011 to 2017 at Cipto Mangunkusumo Hospital with the median age of the patient was 46 years. The most common type of urogynecology fistula is the vesicovaginal fistula where the majority are iatrogenic fistulas caused by complications from obstetric gynecological surgery, namely hysterectomy. This finding is consistent with the results of previous studies. This study's limitation is that this study did not explain further regarding risk factors and causes of each case. Further study is expected to evaluate variables or other risk factors and their relationship to the incidence of urogynecology fistula and their impact on the patients' quality of life and psychosocial condition.

CONFLICT OF INTEREST

The author declares there is no conflict of interest regarding publication of this article.

FUNDING

This study doesn't receive any specific grant from government or any private sectors.

AUTHOR CONTRIBUTION

All authors had contributed equally in manuscript writing and agreed for the final version of the manuscript for publication.

ETHICAL STATEMENT

This study has been approved by ethical committee Faculty of Medicine, Universitas Indonesia-Cipto Mangunkusumo Hospital, Jakarta, Indonesia. All study procedures in accordance to Helsinki Declaration of Human rights.

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