International Journal of Reproduction, Contraception, Obstetrics and Gynecology
Pal R et al. Int J Reprod Contracept Obstet Gynecol. 2016 Oct;5(10):3280-3282
www.ijrcog.org

pISSN 2320-1770 | eISSN 2320-1789

DOI: http://dx.doi.org/10.18203/2320-1770.ijrcog20163403

Review Article

Role of conservative management of genitourinary fistula: review of literature

Reena Pal[1]*, Deepmala Bhagwan Prasad[2]

[1]Department of Obstetrics and Gynaecology, Government Doon Medical College Dehradun, Uttarakhand, India
[2]Department of Obstetrics and Gynaecology, Veer Chandra Singh Garhwali Government Institute of Medical Science and Research, Srinagar, Pauri Garhwal, Uttarakhand, India

Received: 09 July 2016
Revised: 23 July 2016
Accepted: 26 August 2016

***Correspondence:**
Dr. Reena Pal,
E-mail: pal.reena49@gmail.com

Copyright: © the author(s), publisher and licensee Medip Academy. This is an open-access article distributed under the terms of the Creative Commons Attribution Non-Commercial License, which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

ABSTRACT

Regardless the etiology, the development of genitourinary fistula has the most profound and devastating consequences for patient's physical and social life and remains a challenge to surgeons. Although the advancement has been made in the management but still the controversies are exist on the ideal time and approach. The spontaneous closure of vesicovaginal fistulae after continuous bladder drainage alone for varying periods has been reported in literature. This review was undertaken to look in to the literature regarding recent advancement in the conservative management of genitourinary fistula.

Keywords: Genitourinary fistula, Spontaneous healing, Gynaecological surgery, Abdominal hysterectomy, Complications

INTRODUCTION

Genitourinary fistula is one of the most devastating postoperative complication can result from labor or urogenital surgeries. These patients have medical, social and psychological stress, causing major impact on their lives. The emotional distress of the surgeon is also become very high because of the little hope of conservative therapy offers and the need for a second operation to correct the problem.

In developing countries 90% of genitourinary fistulas are a consequence of neglected and obstructed labor as opposed to developed countries, where they are a complication of surgery or radiotherapy.[1]

Incidence

The overall incidence of traumatic genitourinary fistula varies between 0.5 - 1.5% and vesicovaginal fistulas (VVFs) are the most common type of traumatic fistula of the urinary tract.[2] The obstructed labor is the major etiological factor in developing countries whereas in developed countries pelvic surgery is the main cause. The exact incidence of the VVF in developing countries is unknown as most of these patients suffer silently. Some studies have revealed a prevalence rate as high as 2 million women worldwide.[3] Overall incidence of 0.8 per 1000 hysterectomies (open and laparoscopic) have been reported in a study in Finland.[4]

Risk factor

Previous uterine surgery, pelvic irradiation, endometriosis and anatomical distortion of uterus. Associated compounding factors are like anemia, malnutrition and steroid use. Other less common causes include pelvic malignancy, obstetric infections, erosion secondary to a foreign body and vaginal trauma.

Classification

Genitourinary fistula can be classified in various ways, according to Waaldjik and Elkins it can be classified on

the basis of anatomical involvement, size and site of fistula.[5]

Anatomic classification

- Type 1 - not involving the closing mechanism
- Type 2 - involving the closing mechanism
  Not involving total urethra
  Involving total urethra
- Type 3 - miscellaneous e.g.: ureteric fistula

According to the size

- Small <2 cm
- Medium 2-3 cm
- Large 4-5 cm
- Extensive >6 cm

According the site

- Vesico-cervical
- Juxta-cervical
- Midvaginal vesicovaginal
- Suburetral vesicovaginal
- Urethra vaginal

Amongst urogenital fistula, VVF is the most common type; its etiology differs in various parts of the world. In developed countries the most common cause of VVF is injury to the bladder during gynaecologic, urologic, or other pelvic surgeries, whereas obstetric cause is still most common in developing countries.[6]

As the surgical repair is the main stay of treatment as spontaneous healing of VVF is very uncommon but as the ideal strategy of treatment is a delayed repair, undertaken after 3-6 months to allow healing of inflammation and edema at VVF site, meanwhile the strategy of continuous bladder drainage and maintain hygiene is useful as most of spontaneous healed VVF takes 0.5-2 months to heal.[7]

VVF repair can be approached by trans-vaginally, trans-abdominally, or in a combined approach if necessary. Postoperative VVFs have 75-97% of success rate after repair and 10% failure rate has been reported with recurrent fistulas.[8] Despite of modern advances VVF remains a challenge to the modern surgeon and becomes more difficult and devastating consequences for the patient if recurrence occurs.

Conservative management

As continuous wetness, odour, and discomfort causes serious social problems and when delayed approach of surgery is intended than it is essential to consider special care of the sanitary and skin with fulfil the nutritional and rehabilitative needs of patients. Continuous drainage of urinary bladder over a period of time in small or simple type of genitourinary fistula leads to spontaneous closure of fistula. As spontaneous healing of genitourinary fistulas is uncommon, few cases have been reported in literature.[9-11]

Tancer noted spontaneous closure in 3 of 151 patients (2%). In these 3 patients, continuous bladder catheterization was provided within 3 weeks of hysterectomy.[11] Whereas Zimmern stated that if no improvement is observed after continuous catheterization in 30 days, the chances of spontaneous healing of VVFs are negligible and prolong catheterization only increases the risks of infection.[12]

Davits and Miranda found complete resolution of 4 VVFs with continuous bladder drainage maintained for 19-54 days.[13] Another study noticed spontaneous closure of fistula in 10% cases after 0.5-2 months of urethral catheterization and anticholinergic medication, especially if the fistula is of small diameter, is detected early (before epithelisation of the fistula). If the diagnosis is established late (fistula has epithelized) than electrocoagulation of the mucosal layer and 2-4 weeks of catheterization may lead to closure.[7]

Elkins and Thompson noted some success with continuous bladder drainage. Unfortunately, the rate of success was unpredictable for the individual patient; the rates ranged from 12-80%. Successful cases were characterized by the following criteria: continuous bladder drainage for up to 4 weeks, the VVFs were diagnosed and treated within 7 days of index surgery, VVFs were less than 1 cm, and they were not associated with carcinoma or radiation.[14]

The cystoscopic guided electrocautery has been suggested to close very small (<0.5 cm) VVF tracts. Cautery destroys the fistula tract lining, allowing the bladder and vaginal tissues to reseal.[15,16] Conservative treatments, including glue products, reportedly have varying degrees of success, which depends on the cause, size and location of the fistula. However, reports of these methods are still very limited.

Fibrin-based surgical sealants can also be used to augment a fistula repair. When an interposition is used between overlapping suture lines, the sealant can keep the area dry for long enough to allow primary healing.[17,18]

Currently no consensus has been described regarding the time that should be allotted for spontaneous healing to occur and when to abandon conservative treatment and consider surgical repair. VVF repair has been deferred for three to six months to allow resolution of inflammation and edema. Catheterization prior to surgical correction is common to minimize physical psychological and social stress of patient however simultaneously some of the VVF will closed spontaneously with continuous bladder drainage during this period.

CONCLUSION

VVFs are the most common types of urogenital fistula which causing devastating physical mental and social consequences for the patient. As continuous bladder drainage not only improves social mental health, reduction of wound inflammation, further planning of corrective surgery but also gives the chance of spontaneous closure of fistula especially in cases of simple and small fistula.

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: Not required

REFERENCES

1. Hilton P, Ward A. Epidemiology and surgical aspect of urogenital fistula: A review of 25 years' experience in South East Nigeria. Int urogynecol J Pelvic Floor. 1996;9;189-94.
2. Aronson MP, Bose TM. Urinary tract injury in pelvic surgery. Clin obstet Gynecol. 2002;45:428-38.
3. Wall LL. Obstetric fistulas in Africa and the developing world: new efforts to solve an age-old problem. Women's Health Issues. 1996;6:229-34.
4. Harkki-Siren P, Sjoberg J, Tiitinen A. Urinary tract injuries after hysterectomy. Obstetrics and Gynecology. 1998;92(1):113-8.
5. Waaldijk K, Elkins TE. The obstetric fistula and peroneal nerve injury: an analysis of 947 consecutive patients. Int Urogynecol J. 1994;5:12-4.
6. Rovner ES. Urinary tract fistula In: Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA, eds. Campbell-Walsh Urology. 9th ed. Philadelphia: Saunders; 2007:2322-90.
7. Kursch ED, Stovsky M, Ignatoff JM, Nanniraga WF, O'Connor VJ. Use of fulguration in the treatment of vesicovaginal fistula. J Urol. 1993;149:292A.
8. Eilber KS, Kavaler E, Rodriguez LV, Rosenblum N, Raz S. Ten-year experience with transvaginal vesicovaginal fistula repair using tissue interposition. J Urol. 2003;169:1033-6.
9. Singh O, Gupta SS, Mathur RK. Urogenital fistulas in women 5- year experience at a single center. Urol J. 2010;7:35-9.
10. Zimmern PE, Hadley HR, Staskin D. Genitourinary fistulas: vaginal approach for repair of vesicovaginal fistulas. Clin Obstet Gynaecol. 1985;12(2):403-13.
11. Tancer. Observations on prevention and management of vesicovaginal fistula after total hysterectomy. Surg Gynecol Obstet. 1992;175(6):501-4.
12. Zimmern PE, Hadley HR, Staskin D. Genitourinary fistulas: vaginal approach for repair of vesicovaginal fistulas. Clin Obstet Gynaecol. 1985;12(2):403-13.
13. Davits RJ, Miranda SI. Conservative treatment of vesicovaginal fistulas by bladder drainage alone. Br J Urol. 1991;68(2):155-6.
14. Elkins T, Thompson J. Lower urinary tract fistulas. Walters M, Karram M, eds. Urogynecology and Reconstructive Pelvic Surgery. St Louis, Mo: Mosby; 1999:355-66.
15. Kurs ED. Etiology, evaluation, and endoscopic management of vesicovaginal fistulas E. D. Kursh, E. J. McGuire (Eds.), Female urology, J.B. Lippincott, Philadelphia; 1994:359.
16. Latzko W. Postoperative vesicovaginal fistulas. Genesis and therapy. Am J Surg. 1992;48:211.
17. Kanaoka Y, Hurai K, Ishiko O, Ogita S. Vesicovaginal fistula treated with fibrin glue. Int J Gynecol Obstet. 2001;73:147-9.
18. Evans LA, Ferguson KH, Foley JP, Rozanski TA. Morey Fibrin sealant for the management of genitourinary injuries, fistulas and surgical complications. J Urol. 2003;169:1360-2.

Cite this article as: Pal R, Prasad DB. Role of conservative management of genitourinary fistula: review of literature. Int J Reprod Contracept Obstet Gynecol 2016;5:3280-2.