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Therapeutic Pathways of Vesicovaginal Fistula, From the Past to the Future: A Mini-Review

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ABSTRACT

Over the last decade, innovation of medical interventions concerning less radical surgery consists cornerstone of therapeutic management.

Among gynecologic surgical procedures, medical experience and completion of educational curve lead to the decrease of potential post-operative complications.

Vesicovaginal Fistula (VVF) represent ultimate medical injury in cases of total laparoscopic or abdominal hysterectomy.

The aim of our study, consists of primary detection of such cases, assiduous imaging depiction, and ultimate therapeutic strategy.

New technical innovations and less radical intervention consist of necessary conditions to establish proper therapeutic mapping.

Keywords:

Vesicovaginal Fistula (VVF), Surgery, Endoscopic Surgery, Robotic Surgery.

Introduction

Vesicovaginal fistula (VVF) consists of the non-physiological adjustment among urine bladder and vaginal wall.

Predisposition factors reflect the age of the patient, size and location of the leakage, gynecologic-social status and surgical severity [1].

Unfortunately, depicted in the current bibliography, terminology of the developed and developing country represent an essential role, to clarify the pathophysiologic origin of this entity [2].

Major unsolved condition in developing countries consists of poor perinatal care leading in the short interval of time in the formation of VVF.

On the other hand, VVF formation in developed countries affects postoperative complications of gynecologic surgical procedures or post-radiation effects in female patients with malignant diseases.

VVF as surgical entities can be very distressful, leading to enormous medical, social, and most of all psychogenic consequences [3].

Besides hysterectomy as a major leading etiologic factor, other rare pathogenic procedures such as urologic and gastrointestinal, illegal abortions, caesarian sections, and congenital anomalies can depict identical imaging findings [4].

Harkki-Siren et al. reported an estimated incidence of VVF 0.8 out of 1000 among hysterectomy surgical procedures [5].

The establishment of proper clinical diagnosis and assiduous therapeutic mapping depends on physical examination with the Cystoscopy performance allows us to determine the size and anatomic area of the fistula reflected with its relationship with the ureteric orifice.

Taking into consideration all these data can be easily mapped the whole therapeutic strategy along with the kind of penetration.

Therapeutic strategy can be conservative at least for start or radical undergoing transvaginal or transabdominal entrance.

The aim of our study consists of the scientific depiction of proper diagnosis and treatment of VVF along with the presentation of new models of therapeutic mapping.

A systematic review of recent bibliography concerning proper diagnosis and treatment of VVF.

Assiduous depiction of imaging findings resulting in databases such PubMed and Cochrane database.

Discussion

The formation of VVF represents a relatively rare surgical entity. Focusing on developed countries, VVF depiction reflects as the postoperative outcome of abdominal or laparoscopic hysterectomies.

The primary diagnosis of VVF consists of urine leaking through the vaginal walls. The optimal postoperative time is between the 7th and 12th pod.

Imaging lesion establishment divides into two simple steps.

First, insertion of the bladder walls with methylene blue as contrast substance. Second, the installation of a tampon inside the vaginal area.

Among patients with VVF diagnosis, colorization of the inserted tampon was performed.

Cystoscopy, an essential tool concerning the diagnosis of VVF, can provide optical depiction, depending on the size and

location of the VVF.

We can also install a small urine catheter through the formatted fistula to record the fistula pathway into the vagina walls.

Taking into consideration the anatomic area of the vaginal apex, many current studies called them vault fistulas [6].

These cases adjust the anterior vaginal wall, just in front of the transverse vaginal scar, where the cervix was attached [7].

The optimal therapeutic strategy of these cases was established through Latzko operation, consisting of pure vaginal penetration.

During this surgical procedure, a vault colpocleisis without any attempt at the dissection of the fistulous tract is performed [8].

The current bibliography classified VVF in three major categories, depending on lesion expansion.

Simple VVF, with a diameter <3 cm, complex with diameter >3 cm, and other types of VVF as extra-complex [9].

Surgical intervention represents the routine therapeutic mapping among VVF. Optimal timing consists a postoperative period of 6 months to provide enough recovery time of the inflammation and the sinus edema [10].

Shi Qigang et al. suggested that VVF with a diameter less than 0,5 cm can be conservative treated with urinary catheterization and antibiotics [11].

Zhou Rong et al. reported 2 cases of VVF with 0,5 diameter who recovered 2 months after conservative treatment [12].

Simple VVF can easily be treated with conservative vaginal approaches.

On the other hand, an optimal therapeutic strategy of VVF can be performed, through myocutaneous flap or abdominal approach [13].

According to current literature, there is a strong possibility of vaginal shortening through the vaginal approach, with severe post-operative complications such as dead space depiction, vaginal edema and infection of the local anatomic area.

The abdominal approach is usually preferred in large VVF, located near the ureter orifices, in patients with severe atomic history and other systematic lesions [14].

Performance of abdominal approach allows the assiduous penetration of the peritoneal cavity leading to use of myocutaneous flaps.

Omentum flap consists the optimal therapeutic mapping of VVF [15].

In such cases, a multidisciplinary approach through urologists, general and plastic surgeons seem mandatory.

New therapeutic techniques are essential in order to increase the therapeutic outcome and patient's quality of life and minimize all potential postoperative complications.

The laparoscopic approach allows a panoramic view of the whole peritoneal cavity, avoidance of bladder penetration, leading to suturing of the urine leakage [16].

In such cases, the use of an omentum flap is very essential.

However, according to several recent reports, there are no benefits in delaying surgical repair once acute inflammation subsides, and early surgical repair can achieve success rates equal to those of the previously mentioned strategy.

Robotic use as therapeutic mapping of VVF minimizes even further all postoperative complications, optimal increasing surgical success rate [17].

In cases with increase residual rate, or decreased surgical rate, a few new therapeutic techniques are very helpful and promising.

Many conducted studies arising from the current bibliography, such as blood-based products (autologous platelet-rich plasma and fibrin glue) managed to establish new standards and accomplish their scope [18].

Sharma et al. first described the use of endoscopic injection of fibrin concerning the therapeutic strategy of VVF, not depicting any potential postoperative complications [19].

Streit-Cieckiewcz et al. described the use of platelet-rich plasma (PRP) in cases of VVF with the increased rate of recurrence, depicting successful surgical intervention in the 4th-6th postoperative week [20].

BMI consisted as predisposition factor concerning conservative treatment or surgical failure of VVF.

Patients with low BMI should be boosted with Auxilliary adipose tissue to minimize any potential postoperative complications.

Focusing on surgical intervention, due to ischemic or iatrogenic support of the urethra, can easily lead to Stress Urinary Incontinence (SUI) [21].

In such cases, use of a urethral sling seems controversial. Due to extended recovery time, many patients develop controversial mental or psychokinetic distress syndrome.

Many conducted studies report persistent depression in patients after VVF repair [22].

In these cases, a holistic management approach, including mental health care and family support is mandatory.

In many developed countries, mainly in Africa, stigma depiction in women with VVF formation is very often [23].

In these countries, stigma also permeates into religious spheres, as women with fistulas are often isolated from their places of worship or prohibited from practicing their faith.

The final chapter of VVF repair consists of follow-up surveillance. The first follow-up attempt is being scheduled after one month.

Assiduous physical examination and imaging findings seem essential.

If the follow-up depiction is controversial a new cystoscopy is mandatory to ensure the leak repair or to reveal any signs of recurrence.

The aim of our study remained to present and analyze VVF formation, focusing on the pathophysiologic approach and assiduous therapeutic mapping.

Iatrogenic experience and detailed analysis of these surgical entities consist essential tools in proper therapeutic management.

Conclusion

VVF depiction usually consists of surgical complications arising from gynecologic surgical interventions. In addition to the current bibliography, many conservative methods have been conducted to minimize any potential postoperative complications.

A multidisciplinary approach is mandatory to prohibit such composed entities and increase patient's quality of life.

Disclosure of Interest

All authors declare any potential financial interest with respect to this manuscript.

References

1. Abrams P, Cardoso L, Khoury S, et al. (2013) 5th ed. International Consultation on Urological Diseases: Bristol, Uk.

2. McCurdie FK, Moffatt J, Jones K (2018) Vesicovaginal fistula in Uganda. J Obstet Gynaecol 38(6): pp. 822-827.

3. Pope R, Ganesh P, Chalamanda C, et al. (2018) Sexual Function Before and After Vesicovaginal Fistula Repair. J Sex Med 15(8): pp. 1125-1132.

4. Aalpona FZ, Kamrul-Hasan M, Islam F, et al. (2018) Aetiologic factors of female genitourinary fistula. Mymensingh Med J 27(2): pp. 223-228.

5. Harkki-Siren P, Sjoberg J, Titinen A (1998) Urinary tract injuries after hysterectomy. Obstet Gynecol 92: pp. 113-118.

6. Ansquer Y, Mellier G, Santulli P, et al. (2006) Latzko operation for vault vesicovaginal fistula. Acta Obstet Gynecol Scand 85(10): pp. 1248-1251.

7. Falk HC, Kurman M (1963) Repair of vesicovaginal fistula: report of 140 cases. J Urol 89: pp. 226-31.

8. Cespedes RD, Winters JC, Ferguson KH (2001) Colpocleisis for the treatment of vaginal vault prolapse. Tech Urol 7(2): pp. 152-160.

9. Waaldijk K (1995) Surgical classification of obstetric fistulas. Int J Gynecol Obstet 49: pp. 161-163.

10. Kapoor R, Ansari MS, Singh P, et al. (2007) Management of vesicovaginal fistula: an experience of 52 cases with a rationalized algorithm for choosing the transvaginal or transabdominal approach. Indian J Urol 23(4): pp. 372–376.

11. Shi Q, Sun Y, Xiao Y, et al. (2016) Diagnosis and treatment of 42 cases of vesicovaginal fistula. J Clin Exp Med 12: pp. 475-478.

12. Zhou R, Wang H, Wu H (2008) Diagnosis and treatment of vesicovaginal fistula. J Clin Urol 23: pp. 625-626.

13. Viennas LK, Alonso AM, Salama V (1995) Repair of radiation-induced VVF with a rectus abdominis myocoutaneous flap. Plast Reconstr Surg 96(6): pp. 1435-1437.

14. McKay E, Watts K, AbrahamN (2019) Abdominal Approach to Vesicovaginal Fistula. Urol Clin North Am 41(1): pp. 135-146.

15. Miklos JR, Moore RD (2015) Laparoscopic extravesical vesicovaginal fistula repair: our technique and 15-year experience. Int Urogynecol J 26(3): pp. 441-446.

16. Miklos JR, Moore RD (2015) Laparoscopic transperitoneal extravesical approach to VVF repair without omental flap: a novel technique. Int Urogynecol J 26(3): pp. 447-448.

17. Watts KL, Ho R, Ghavamian R, et al. (2017) Robot-assisted extravesical vesicovaginal fistula repair utilizing laparoscopically mobilized omental flap interposition. Int Urogynecol J 28(4): pp. 641-644.

18. Streit-Ciećkiewicz D, Futyma K, Miotła P, et al. (2019) Platelet rich plasma as adjuvant therapy for recurrent vesicovaginal fistula: a prospective case series. J Clin Med 8(12): pp. 2122.

19. Sharma SK, Perry KT, Turk TMT (2005) Endoscopic Injection of Fibrin Glue for the treatment of Urinary Tract Pathology. J Endourol 19: pp. 419-423.

20. Streit–Cieckiewicz D, Nowakowski L, Grzybowska ME, et al. (2021) Predictive value of classification systems and single fistula related factors in surgical management of VVF. Neurourol Urodyn 40:pp. 529-537.

21. Breen M, Ingber M (2019) Controversies in the management of vesicovaginal fistula. Best Pract Res Clin Obstet Gynaecol 54: pp. 61 72.

22. Stokes MJ, Wilkinson JP, Ganesh P, et al. (2019) Persistent depression after obstetric fistula repair. Int J Gynaecol Obstet 147(2): pp. 206-211.

23. Muleta M, Hamlin EC, Fantahun M, et al. (2008) Health and social problems encountered by treated and untreated obstetric fistula patients in rural Ethiopia. J Obstet Gynaecol (1): pp. 44-50.