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Research Article

Rectovaginal Fistula: A Devastating Pathology. A New Surgical Procedure!

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Abstract

Introduction: The rectovaginal fistula is a rare pathology, but a recto-vaginal cloaca is extremely, its incidence is even lower. It is complexly difficult to classify the recto-vaginal fistulas in this series based on their size, so the real abnormal term would be the recto-vaginal cloaca.

Material and Methods: It is a study with a retrospective, longitudinal, observational and descriptive design. The study period runs from September 2011 to September 2021. The files of all patients who were treated for recto-vaginal fistula in the Colon and Rectum Surgery service in three hospitals in Mexico City were reviewed.

Results: From a total of 3, 771 files with the diagnosis of ano-rectal fistula, only 9 female patients with recto-vaginal fistula were detected, which represented less than 1%; with an average age of 25 years, a range of between 19 to 33 years, without chronic degenerative diseases.

Discussion: The surgical treatment of recto-vaginal fistulas (recto-vaginal cloacas) must be individualized, which represents a formidable challenge; individualization should be based on anatomical characteristics, surrounding tissues, and integrity of the sphincter complex. The treatment options for rectovaginal fistulas including acquired rectovaginal cloacas are many and varied and so far there are no reports in the literature on their therapeutic approach.

Conclusion: It is imperative to have a deep knowledge of the anatomy and physiology of the organs involved, as well as skill and experience of surgical techniques, to achieve a good prognosis in favor of our patients.

Keywords: *Fistula; Rectovaginal; Sewer; Spherical; Acquired; Therapy; Sewer*

Introduction

Although the ano-rectal fistula is a common pathology, the recto-vaginal fistula (VRF) fortunately is not; the word fistula has a Latin origin that means reed, pipe or flute, and is defined as the conduit between two epithelialized surfaces [1] that is why VRF is an abnormal communication between the rectum or anus and the vagina. The symptoms are too bothersome to intolerable, with a great impact on the quality of life of the patient [2-4]. VRF has an incidence of less than 5% of all anal rectal fistulas [5] its genesis is diverse, including: obstetric injuries, previous anorectal or gynecological-obstetric surgery, local, neoplastic infections, inflammatory bowel disease or even for sexual trauma; respectively in decreasing order [3,5-7].

The diagnosis of VRF can be obvious, simple, or very complicated; It begins with a complete medical history, examination techniques with stain or hydrogen peroxide, rectal and vaginal endoscopy, colonoscopy, endoscopic ultrasound, endoanal and gynecological ultrasound; proctogram, vaginogram, computerized axial tomography; however, nuclear magnetic resonance is the study of choice since it allows its characteristics to be detailed. It is important to mention that in addition to anatomical studies, functional studies that are part of the protocol for this pathology, including: anal manometry, defecography, pudendal latency, anal electromyography and the selective use of biofeedback [5,8,9]. VRF is classified by its etiology as congenital and acquired; by its location in high, medium and low; due to its difficult prognosis or surgical approach in simple and complex [5,10].

Objective of the Study

Describe the experience in detail of the results obtained in the Colon and Rectal Surgery service of the FRVs treated, with a deductive and critical analysis of the data obtained.

Materials and Methods

It is a study with a retrospective, longitudinal, observational and descriptive design. The records and files of all the patients who were treated for VRF in the Colon and Rectum Surgery service in three hospitals in Mexico City were reviewed:

1. Hospital de Especialidades de la Ciudad de México "Dr. Belisario Domínguez" from the Ministry of Health. Mexico City. Country: MEXICO. 3rd level.

2. General Hospital "Dr. Rubén Leñero" from the Ministry of Health. Mexico City. Country: MEXICO. 2nd level.

3. Hospital Unidad Médica de Alta Especialidad National Medical Center of the General Hospital "Dr. Gaudencio González Garza" from the Mexican Institute of Social Security. Mexico City. Country: MEXICO. 3rd level.

The study period is from September 2011 to September 2021. Age, sex, etiology, clinical picture, anatomical location, classification, surgical time, treatment lines or therapeutic behaviors were evaluated with a focus on surgical intervention, colostomy, surgery previous (recurrent), type of incontinence, reported bleeding, morbidity and mortality. In addition, an analysis of the documentation of VRF is carried out, based on the national and international medical literature.

Results

3,771 records of anorectal fistula were reviewed, detecting a total of 9 female patients with VRF, which represents less than 1%; with an average age of 25 years, a range of 19 to 33 years, without chronic degenerative diseases. The predominant clinical picture was: burning pain in the anus genital area in 9 patients, fecal incontinence 8, urinary infectious symptoms 7, stench 6, flatulence 7, vaginitis 6, among others. Regarding the origin of the RVF, the obstetric cause was the most frequent in 56%, in terms of size they were classified as

large or giant since they are true acquired recto-vaginal cloacas, and they are 90% of the series. By location, 90% are low and only 10% are medium, in this series there were no discharges (Figure 1). All patients had a history of previous repair surgery of one and up to four surgeries (complex VRFs). The accompanying morbidity such as urinary tract infection in all cases, which was persistent and repetitive; Up to 60% of the patients were complicated by pyelonephritis, vaginitis, pelvic inflammatory disease, which was the second most frequent pathology, and lastly, anus genital dermatosis, which is 30% of those affected (Table 1).

Figure 1: *Fistula rectovaginal.*

Patient/Age	Etiology	Size	Location	Colostomy Surgical or Medical	Morbidity
1/19 years	Obstetric IV	4.5 CM	Short	C QX	IVU+EPI
2/24 years	Obstetric IV	7 CM	Low and Medium	C QX	IVU+ EPI+V+D
3/27 years	Obstetric IV	5 CM	Low and Middle	C QX	IVU+ EPI+V+D
4/25 years	Infectious	3 CM	Short	C M	IVU
5/26 years	Trauma	4 CM	Short	C M	IVU+EPI
6/21 years	Survey	2 CM	Short	C M	IVU + V
7/33 years	Intercourse Obstetric IV	2.5 CM	Half	C M	IVU+ V
8/26 years	Obstetric IV	6 CM	Low and Middle	C QX	IVU+ EPI+V+D
9/23 years		3 CM	Short	C M	IVU + EPI + V

Table 1: *Results and characteristics of patients with VRF.*

Fecal incontinence was analyzed with the Jorge and Wexner scale [11] evaluating the quality of life of each patient; 5 patients with severe incontinence with 20 points and 2 with moderate incontinence with 14 and 10 points. The remaining two patients only achieved

1 and 3 points, classifying them as mild incontinence. This is explained by the complete destruction of the entire anal sphincter complex, where the section or loss of the internal anal sphincter muscles, external anal sphincter in its three components, superficial, middle and deep portion; they cause incontinence both of urgency defecatory and of moderate and severe incontinence in a categorical way.

Classifying the VRFs of this series is normatively impossible due to their abrupt size, where the real anomalous term is the rectovaginal cloaca (RVC). This forces the team of surgeons to perform unconventional, unprecedented and highly complex surgical procedures, which together with previous surgeries that have failed more than 2 times in 100% of cases, result in the combination of several viable surgical techniques, resolutive and not documented in the national and international medical literature.

Surgical procedure

The approach is performed through the anorectal route, the 1st procedure is performed with the closure of the rectum in two planes with silk 00 points in U, previously dissecting the vaginal tissues in the dissection of the area of the so-called non-existent or remaining recto-vaginal septum the second plane with polyglycolic acid of the anchored surgete (rectal anastomosis) (Figure 2). The second procedure, once in the anal canal, we proceed to perform the modified Slade-type anal plasty, [12] with points in U with polyglycolic acid of 0 and 00 identifying each of the remaining ends of the three portions of the external sphincter, avoiding ischemia, achieving 100% approximation, without overlapping as in the original Slade technique due to the risk of stenosis, and achieving its dissection up to 2.5 to 3 cm to avoid high tension of the muscles and without exaggerating the number of points (anal plasty) (Figure 3). In the third procedure, the vagina is closed and reconstructed through this access route, with continuous surgery anchored in a single plane with 00 polyglycolic acid (vaginal plasty). The fourth procedure is the reconstruction of the rectovaginal septum, vaginal introitus, and anus; It is performed in two planes with inverted stitches with 00 polyglycolic acid in the peri-anal region and in the area of the recto-vaginal septum, with subsequent skin closure with 000 polyglycolic acid with separate simple stitches; Later, the repair of the vaginal introitus is continued with a plasty of the labia minora, majora, until its complete reconstruction in a single plane with separated simple points with 00 polyglycolic acid (ano-genital reconstruction). The fifth surgical procedure consists of a diversion of fecal matter (laparoscopic or conventional loop colostomy of the sigmoid colon), or failing that, a medical colostomy where each patient will be selected to carry it out according to certain conditions.

Figure 2: *Anastomosis of the rectus rectovaginal fistula 6 CM.*

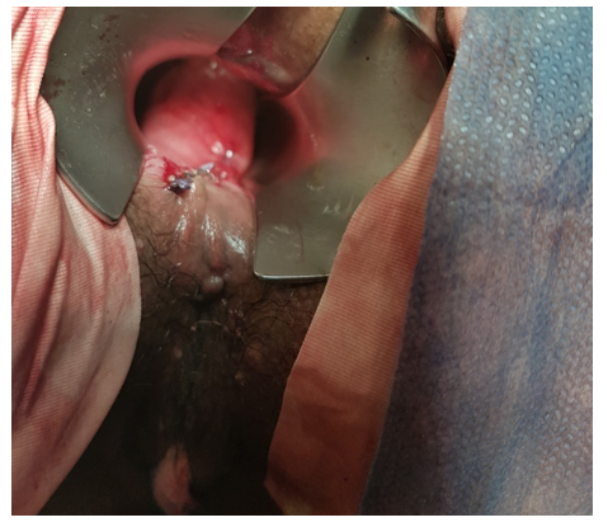

Figure 3: *Anal plastia, with complete closure of the straight vaginal fistula.*

The average surgical time was 250 minutes, with ranges from 200 to 305 minutes. The average amount of bleeding was reported in 180 ml, with a variation of 100 to 230 ml. No postoperative morbidity or mortality is reported. Successful closure and function of the rectum and vagina was achieved in the entire case series in this report. 100% continence was achieved, which is recorded with the 0-point Wexner scale in all cases. The reduced size of the vagina (in 4 cases) can be expanded with subsequent continuous instrumented dilations starting three months after surgery, for a further 3 months. Closure of the colostomy (sixth procedure) is performed 6 months after the surgical combo. Follow-up is given for one year in the outpatient clinic, with manometry (in 2 cases), endoanal ultrasound (in 8 cases), defecography (in 4 cases) and Biofeedback (in 4 cases); however, without any recurrence, until his definitive discharge.

Discussion

Surgical treatment of VRFs is a formidable challenge; It is understood that for the CRVs, with more tissue and structural damage and of a larger size, they are even more so; that is why when specifying the individualization, the anatomical characteristics, the surrounding tissues and the integrity of the sphincteric complex must be taken into account. In addition, it is essential to take into consideration the ideal conditions and factors of the patient preoperatively, to protocolize it and to decide to perform the surgical technique (s) indicated in this scenario in each patient [13,14].

Among the prognostic factors for successful closure or healing; previous surgery has a poor prognosis; and the need to perform a stoma does not have any beneficial effect, otherwise the various authors, even so, carry it out; and as for the etiology, it does not influence the successful closure [15,16]. On the other hand, it is reported that the best prognosis in relation to its etiology is the obstetric cause, unlike the VRFs that are not [17]. Surgery performed through a vaginal approach after delivery results in an optimization of vaginal tissues for pregnancy, being a beneficial factor [18,19].

The use of the derivative colostomy is not essential, nor is it preferable, but it is recommended according to the following characteristics:

- A large or giant FRV or the so-called CRV.

- Moderate or severe incontinence presented by the patient.
- Surgical repair of the RVF, previously unsuccessful and repetitive.
- Anatomical absence of the rectovaginal septum.
- Anatomical and physiological injury or absence of the anal sphincteric complex.
- Severe and ongoing infections, such as pelvic inflammatory disease, pyelonephritis, etc.

In addition to diverting the fecal matter, with the creation of a stoma to prevent infection of the surgically repaired wound, pressure equality between the two organs is also achieved, since the intense variation in pressure between the two organs rectum 110 mm Hg and vagina 0 mm Hg, it is an adverse factor for successful closure [3,21,22] the above explains that having a CVR greatly facilitates that the loss of continuity so great makes this an expeditious passage of the same fecal matter, accentuating incontinence and compensating the puborectalis muscle being useless [23]. There is another little-known option, which allows stopping the evacuation process for up to two to three weeks, called a medical colostomy; But it does not manage to diminish in anything the effect of the equity of the disparity of the pressures of both organs; ensuring or not, an early healing of the surgery performed. But the medical colostomy does avoid two more surgical procedures; the colostomy and its consequent closure in a second stage [24].

For VRFs, there are surgical procedures with excellent results, such as the Martius procedure [10,25]. Other treatments also used with good results such as fibrin glue, fibrin plug, fistulotomy, perineal-proctectomy, flap advancement, vaginal layer closure, Corman surgery, rectus muscle or muscle transposition gracillis, or the closure of the wound by magnetic compression replacing the sutures, or the so-called clip system over the fistulous tract [5,26-29]. In addition, success has been reported with trans-perineal repair with concomitant anterior levatorplasty and sphincteroplasty [30]. High RVFs with a conventional or laparoscopic abdominal surgical approach are performed by separating the fistula and closing with or without resection, Bricker patch, and Parks colo-anal anastomosis [5,31].

Treatment options for RVFs are many and varied, but they are very different from acquired RVRs; since they are fistulas of an imposing size and there are no reports in the literature of their management [32,33].

That is why the impact of this manuscript, where “highly important factors” must be considered for a good prognosis:

- Carry out a complete preoperative study protocol, with adequate nutrition, avoiding anemia; not having any infectious process at the time of surgery, carrying out a rectal preparation (mechanical and antibiotic), as well as a deep knowledge of the surgical anatomy and specific physiology of the surgeon; and with a reliable explanation to the patient, making her illness, her protocol, her treatment, follow-up and prognosis aware and understandable.
- A sufficient wait that must be more than 3 months from the last failed surgical attempt. To be able to assess (the tissues) of the actual surgical margins (local tissue necrosis and consequent inflammation).
- The use of an anatomical or medical colostomy; Each patient will be selected for one or the other, by particular characteristics, such as their degree of cooperation, personality A or B, psyche, social-economic conditions, constitution, etc.
- A strict follow-up and surveillance in the postoperative period, of the patient in her long-term evolution, of up to at least one year.

Conclusion

The pathology of CRV is extremely rare, very complex and the shared experience in the medical literature is scarce; Furthermore, there is no standardized treatment to date.

Surgical therapy must be individualized in each patient, considering the factors that lead to a worse prognosis; But what must be generalized and taken into account are the "highly important factors" previously mentioned.

The surgical team of this manuscript emphasizes that it is imperative to have a scrupulous anatomical and physiological knowledge of the organs involved, as well as the skill and experience of the set of surgical techniques; to get closer to ensuring a better prognosis and success for our patients.

Conflict of Interest

The authors declare that they have no conflict of interest.

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Volume 8 Issue 6 June 2021