



Review

Management of acquired rectourethral fistulas in adults

Shulian Chen, Rang Gao, Hong Li, Kunjie Wang*

Department of Urology, Institute of Urology (Laboratory of Reconstructive Urology), West China Hospital, Sichuan University, Chengdu, Sichuan, China

Received 23 September 2016; received in revised form 14 June 2017; accepted 30 October 2017
Available online 31 January 2018

KEYWORDS

Rectourethral fistula;
Prostate cancer;
Radical
prostatectomy;
Radiation therapy;
Diagnosis;
Management

Abstract Rectourethral fistula is an uncommon but devastating condition resulting from surgery, radiation, trauma, inflammation, or occasionally anorectal anomaly. Because of involving the urinary and the digestive system, surgical repair can be challenging. More than 40 different surgical approaches were described in the literature. However, no standardized management exists due to the rarity and complexity of the problem. Spontaneous closure of fistula is rare and most cases need reconstructive procedures. Appropriate preoperative assessment is crucial for the decision of operation time and method. Gradually accumulating evidence indicates surgeons should take fistula size, tissue health and vascularity associated with radiation or infection, urethral stricture, and bladder neck sclerosis into consideration and make a proper treatment plan according to the features of various approaches. Accurate preoperative evaluation and proper approach selection would increase success rates. Multiple surgical team corporation, including colorectal, urological and plastic surgeons, would optimize the outcomes.

© 2018 Editorial Office of Asian Journal of Urology. Production and hosting by Elsevier B.V. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

1. Introduction

Rectourethral fistula (RUF) is a connection between the lower urinary tract and the distal part of the rectum. RUFs are rare conditions and can be classified as congenital or acquired [1]. Congenital RUFs, usually related to

imperforate anus, represent a small subset of this pathology and are managed by pediatric surgeons [2–4]. Acquired RUFs resulting from surgery, radiation, trauma, or inflammation often occur in adults and account for the majority of the condition [5]. Due to the rarity of cases and the heterogeneity of causes, RUFs represent a big challenge to

* Corresponding author.

E-mail address: wangkj@scu.edu.cn (K. Wang).

Peer review under responsibility of Second Military Medical University.

urologists and devastating circumstance to patients. Spontaneous closure of the fistula is infrequent and most cases need surgical repair [6–8].

Though over 40 approaches have been described in the literature varying from transanal endoscopic microsurgery to transabdominal surgery, as a result of absence of randomized control study and ideal protocol guiding clinical practice, there is to date no consensus on the optimal method of repair. Surgeon's familiarity with certain procedure often determines the choice. However, RUFs developed by different causes possess different characteristics and different approaches hold varying pros and cons [9–11]. Consequently, it is imperative to review and update the characteristics of RUFs and corresponding repair approaches in order to gain more successful therapeutic effect. Herein, we mainly focus on the acquired RUFs in adults, as they represent the majority of this condition and implicate more difficulty in terms of treatment.

2. Incidence and etiology

Acquired RUFs may be caused by surgery of prostate or anorectal cancer, radiation or cryotherapy, trauma, infection. Among them, radical prostatectomy is the main reason, ensuing radiation and ablative therapy. Other rare causes reported in the literature included radiation therapy for rectal cancer [12], repeated prostate biopsy, sclerotherapy for hemorrhoids [13], Fournier's gangrene [14], and Crohn's disease [15].

The incidence of RUFs after prostatectomy was about 0.53%. Most RUFs resulted from unrecognized rectal injury during the operation and usually located at the vesicourethral anastomosis [16]. Prior radiation and/or ablative therapies, in a dose-dependent manner, increased the risk of RUFs after prostatectomy and decreased the likelihood of spontaneous closure of fistula as a result of ischemic and fibrotic tissues they induced [17]. Moreover, these therapies also complicated the repair surgery due to the lack of laxity and the avascularity of the surrounding tissues [18,19].

In addition to surgery, combination or monotherapy of radiation, brachytherapy, cryotherapy, high-intensity focused ultrasound (HIFU) can also incur RUFs, with the incidence rate varying from 0.1% to 3.3% according to the therapy used [20–24]. Advanced age and salvage therapies were related to higher rates of RUFs [17,25]. Rates of rectal injury ranged from 2% to 9% during salvage retropubic radical prostatectomy (RRP), in contrast to 0%–4% in the primary RRP [26,27]. In contrast to primary treatment of prostate cancer, salvage external beam radiotherapy or salvage brachytherapy could increase RUF incidence rate from 0.6% to 3% [28]. It was hard to estimate the accurate incidence rate of RUFs induced by trauma and infection, because of the rarity of these entities [14,29,30].

3. Diagnosis and evaluation

Accurate diagnosis and proper preoperative assessment of RUFs are essential for treatment planning. Primary clinical presentations consist of fecaluria, pneumaturia, and urinary drainage through the rectum, as well as some

other symptoms, including hematuria, urinary tract infection, abdominal pain, and fever [16,31,32]. Amid them, fecaluria usually suggests a poor prognosis, which indicates large fistula size [32]. Other factors related to poorer outcomes are large fistula size (>2 cm), radiation and cryotherapy [18,33]. Radiation and cryotherapy may result in microvascular injuries and mucosal ischemia, increasing difficulties in repair.

Clinical suspicion requires a series of complementary tests to confirm diagnosis. Fistulas may be palpated in the anterior rectal wall through digital examination. Cystoscopy and sigmoidoscopy visualize the fistula tract in most cases and provide access for biopsy which is important for prior malignancy to rule out local recurrence, meanwhile, they enable the assessment of the vitality and viability of the surrounding tissues [34]. Voiding cystourethrography or retrograde urethrography usually provides a definitive diagnosis and delineate the size and location of RUFs, which is important for surgical planning. Besides that, upper urinary imaging should be carried out to exclude ureteral injury. In elderly and radical prostatectomy patients, it is important to assess the continence and sphincteric function in preoperative counseling, because repair of RUFs only is insufficient to bring about continence in many patients with severe stress incontinence [33].

4. Management

Though over 100 years has passed since the first reported surgical management of RUFs, treatment of this pathology remains the most debated topic [35]. There is no consensus on the optimal procedure of choice. Reasons can be ascribed to the rarity and the complexity of RUFs, and absence of comparative trials in the published literature. However, with the accumulation of experience resulting from cases, particularly some large sample studies, some principles of importance can be extracted [5,12,16,36,37].

Prior to treatment planning, accurate assessment of the complexity of RUF is crucial for employing appropriate approach. There are several important factors highly associated with the complexity of RUFs [10,16,38]. If fistula size larger than 2 cm, presence of severe urethral stricture, and/or ischemic tissue due to prior ablative therapies exist, RUF is considered complex. On the other hand, a fistula is regarded as simple [5,12]. Fig. 1 shows the management algorithm for RUFs.

5. Conservative management

Conservative management refers to procedures without surgical intervention of fistula, including low residue diet, urethral catheterization, urinary or fecal diversion related surgery such as suprapubic cystostomy, nephrostomy, ileostomy, and colostomy [39]. Residue diet, urethral catheterization and hyperalimentation can be applied to simple RUF without severe symptoms. For simple RUF with severe symptoms, urinary diversion and/or fecal diversion should be used to alleviate present symptoms [40]. If the epithelization of the fistulous tract is visualized by cystoscopy or sigmoidoscopy, spontaneous closure is rarely possible [41]. General closure interval of simple fistula is

Download English Version:

<https://daneshyari.com/en/article/8770085>

Download Persian Version:

<https://daneshyari.com/article/8770085>

[Daneshyari.com](https://daneshyari.com)