Rate of Constipation After Sagittal Anorectoplasty for Rectoperineal Fistula

Thesis

Submitted for Partial Fulfillment of the Master Degree in General Surgery

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2018

سورة البقرة الآية: ٣٢

First of all, thanks to Allah whose magnificent help was the main factor in completing this work.

No words could express my deepest thanks and appreciation to Prof. Dr. Ahmed Abdel Aziz Abou-zeid, Professor of Professor of Surgery, Faculty of Medicine, Ain Shams University, for inspiring me with the idea of this work. Her patience, precious advice and guidance enlightened my way throughout this work.

I am also deeply indebted to Assist. Prof. Dr. Amr Abdelhamid Abouzeid, Assistant Professor of Paediatric Surgery, Faculty of Medicine, Ain Shams University, for her kind help, guidance, useful advices, continuous encouragement and support all through my entire work.

I want also to express my profound gratitude to Dr. Ayman Mostafa Allam, Lecturer of Paediatric Surgery, Faculty of Medicine, Ain Shams University, for her patience, valuable advice and continuous help in completing this work.

Finally, my deepest thanks to all my family and colleagues who helped me in the production of this work.

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List of Abbreviations

AEA : Anterior ectopic anus

PC : Pubococcygeal

SARP : Sagittal anorectoplasty

ORSI : Over retentive stool incontinence

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Introduction

Low anorectal malformation comprises about half of all anorectal anomalies. Most of the literature concerning management of anorectal anomalies is centred on the treatment and outcome of high anomalies. The management of low anomalies has been considered significantly less challenging than high anomalies. Also, the outcome of low anomalies has traditionally been considered good. However, recent more critical long-term follow up reports show a different picture. As reported by Peña, constipation was the most common sequelae [1].

In 1978, Hendren [2] first reported the association of constipation with anterior displacement of the anus in children. Patients were reported to have symptoms in the form of straining and severe pain on defecation, dating since birth or time of weaning (which was of greater concern to parents compared with constipation). These patients were successfully managed with posterior anoplasty. At that time, Hendren made a clear statement: 'I believe that many patients who have been labeled as having refractory 'psychogenic constipation' or 'habit constipation', in fact, have unrecognized slight, or sometimes obvious, anterior displacement of the anus.

Operation can relieve many of these patients of the need to continue their cathartic programs' [2].

There is no consensus on the management protocol of rectoperineal fistula. Treatment protocols vary from no treatment to anal dilatation, simple anoplasties, and lastly the more extensive sagittal anorectoplasties. Obviously, surgical repair has cosmetical benefit, but there is argument as regarding its functional benefit [3].

Aim of the Study

The aim of this study is to estimate the incidence of postoperative constipation among patients with rectoperineal fistula treated with sagittal anorectoplasty using krickenbeck classification for postoperative outcomes.

Review of Literature

Definition and Clinical Features

There has been controversy about the definition and descriptive terminology of the condition [3-5]. Slight anterior displacement of the anus has been variously described as “anterior ectopic anus (AEA)”, “covered anus”, or “anteriorly displaced anus”. The most recent English language texts include this abnormality in the term “rectoperineal fistula”. The term “rectoperineal fistula” is now used to describe a situation where the anus opens anteriorly to the normal location, passing anterior to, or partially through, the sphincter mechanism. The anus in these lesions is usually stenotic (fig. 1). We prefer the term perineal fistula for many reasons. The anal opening is most frequently strictured or stenotic. Also, there is no anal canal. Lastly, the orifice is not surrounded 360° by a sphincter mechanism [6].

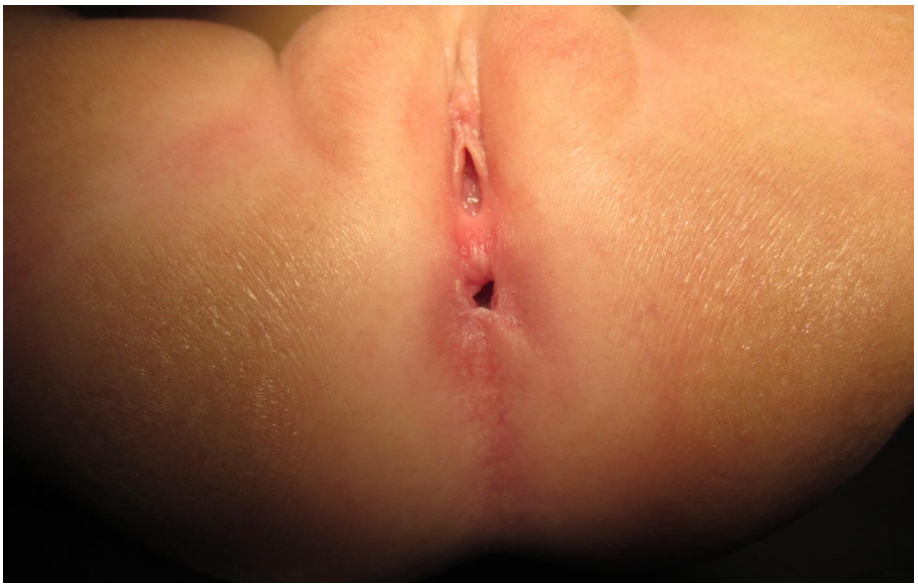

Figure 1: Rectoperineal fistula in a female patient.

The most minor, proximal form may be corrected by a simple anoplasty, whereas a more displaced fistula is usually treated by a procedure to relocate the rectum within the sphincters [7].

A source of confusion in this area is the entity of "anterior ectopic anus". Consensus has emerged that this term should only be used to describe a correctly formed anus and sphincter mechanism, located more anteriorly than normal [4-7].

Precise judging on the anal position as normal or displaced is not an easy job, due to the wide variation between individuals in their perineal topography [3].

This becomes even more difficult after the scarring of previous perineal operations. The use of electrical muscle stimulation under anesthesia to determine the exact location of the anus in relation to the sphincter muscle scan be of great help and is considered the gold standard [3,4].

There is a general thought that there is high incidence of constipation following the repair of low anorectal anomalies[3,8] may be related (in certain situations) to the undercorrection of the anomaly, with residual degree of anterior anal displacement. In the literature, several causes have been investigated to explain persistence of constipation after the repair of anorectal anomalies: narrow neoanus with the need for dilatation [3], hypomotility of a hugely dilated rectosigmoid colon, neurogenic causes, dyssynergic defecation, and the possibility of associating aganglionosis[6]. No single factor could totally explain the pathogenesis of constipation in these patients that would suggest a multifactorial etiology. However, to the best of our knowledge, the effect of residual anterior anorectal misplacement on the process of defecation has not been sufficiently investigated [7].

Perineal fistula is one of the most common anorectal defects, occupying the second place in frequency in males

after the rectourethral fistulas (bulbar and prostatic) together and the third place in females after vestibular fistula and cloacas [7].

Perineal fistulas are the most benign of all anorectal defects in terms of functional prognosis for bowel control. The chances for these patients to have bowel control are high provided they receive a good operation. The incidence of constipation in these patients is the highest of the entire spectrum of anorectal malformations. In fact, the higher the malformation, the poorer the prognosis for bowel control, but the better the prognosis for constipation, or the other way around, the lower and more benign the malformation, the highest chances of bowel control, but also the highest possibilities of suffering severe constipation. The reason for this is unknown. Interestingly, higher malformations require much more perirectal dissection in order to bring the rectum down to the perineum. This dissection means that we divide the vessels and the nerves that surround the rectum in order to mobilize it down. In other words, higher rectums require more denervation, yet they have less constipation!! Patients with perineal fistulas require a minimal degree of mobilization and therefore denervation, and yet they have the worst degree of constipation [7].

Another important characteristic of this particular defect is that there is a group of patients with perineal fistulas that run in families. It is well documented in the literature that about 1 % of all patients with anorectal malformations have a sibling with an anorectal malformation [9].

The association of anorectal malformation, sacral defect, and presacral mass is well known and is frequently called Currarino triad [10-18]. Constipation is the presenting symptom in the majority of cases [17, 18]. The commonly reported presacral masses are either some sort of developmental cyst (dermoid, epidermoid, or tailgut), or an anterior sacral lipomyelomeningocele [18, 19]. Cases may present with the complete form, or may have one of the three components missing [17]. Spinal cord anomalies (tethered cord, thickened filum, syrinx) are common associations, and duplication of the urogenital tract has also been described with the triad [17].

Early descriptions of the triad were reported in the literature by Kennedy in 1926 [19] and Aschraft in 1965 [10]; however, in 1981, Currarino, et al., reported this association as a unique syndrome with autosomal dominant inheritance, and suggested an embryological explanation