

CLINICAL AND DIAGNOSTIC ASSESSMENT OF GOODSALL'S RULE IN ANORECTAL FISTULAS

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ABSTRACT

The exact identification of the internal opening in the surgical treatment of anorectal fistulae is of basic importance for their radical treatment. The rule of Goodsall enables identification of the internal opening. 184 patients with anorectal fistulae have been studied (145 male è 39 female). According to the type of the fistulae patients were distributed as follows: 86(46.74%) with transsphincteric, 57(30.98%) with extrasphincteric and 41(22.28%) with intrasphincteric. Most of them 126(68.48%) have had posterior external opening, while 58(31.52%) had anterior external opening. The internal opening has been identified in 169(91.85%) cases. The Goodsall's rule was observed in 131(77.51%) Exception of this rule was registered in 38 patients - 20 cases with transsphincteric fistulae, 12 with extrasphincteric, 5 with recurrent fistulae and 1 with intersphincteric. 87.30%(110/126) of the posterior anorectal fistulae fulfilled the rule of Goodsall, while the anterior ones this rule was observed in 33/58(56.90%). From the cases with intersphincteric fistulae in 97.56 % there is match with the rule of Goodsall. The Goodsall's rule predicts the position of the internal opening, according to the localization of the external opening. Exceptions of this rule were in the anterior fistulae and lying more than 3 cm from the anus /sensitivity of 56.90 %/. The Goodsall's rule demonstrates highest informativity in posterior fistulae/sensitivity was 87.30 %/.

Key words: Goodsall's rule/GR/, Anorectal Fistula/ARF/, Anorectal Abscess /ARA/.

INTRODUCTION

The anorectal fistula /ARF/ is a chronic inflammatory process in the pararectal region, consequence of a spontaneously perforated or non-radically treated anorectal abscess /ARA/1,2/. The fistula channel starts from the affected Morgagni's crypts, where its internal opening is, while the external opening lies in the perianal region. Through the internal opening in the rectum the fistula channel is infected and permanent splitting of pus from the fistula is observed. Cicatrix formation, chronic tissue infiltration and abscess cavities along the fistula channel hamper the surgical inspection of ARF/3, 4/.

Back in 1900, D.H. Goodsall formulates his law that fistulae anterior and above the horizontal line through the centre of the anal channel in lithotripsy position of the patient have direct, straight forward and radial course, while those posterior and below the horizontal line have curved course, towards the middle portion of the anal channel/3,4,5/. Thus by the position of the external opening, the possible localization of the internal opening of ARF is proposed/6/.

Depending on their site to the horizontal line the ARF are front and rear. The anterior ones have direct, radial and straight fistula channel, while in the posterior ones it is curved, entering in the crypts of Morgan on the dentate line . The exact identification of the internal opening in the sur-

gical treatment of anorectal fistulae is of crucial importance for their radical treatment/7,8,9/.

AIM

To maintain a clinical and diagnostic assessment of the prognostic value of Goodsall's rule/GR/, in relation to the precise and radical surgical treatment of ARF.

MATERIALS AND METHODS

Throughout the period 2003-2007 a total of 184 patients with anorectal fistulae have been studied (145 male and 39 female), on the average age of 43.8 years. According to the type of the fistulae, patients were distributed as follows: 41(22.28%) with intrasphincteric, 86(46.74%) with transsphincteric and 57(30.98%) with extrasphincteric (fig.5). Most of them 126(68.48%) have had posterior external opening, while 58(31.52%) had anterior external opening. All patients did have ARF of a customary cryptoglandular origin. Cases with anorectal form of Crohn's disease, Actinomycosis, Tuberculosis and other specific diseases with fistulae in the anorectal region were excluded from the study.

RESULTS

The internal opening has been identified in 169(91.85%) cases. In 131(77.51%) patients the GR was valid. With exception of the latter group were 20 cases with transsphincteric fistulae, 12 with transsphincteric, 5 with recurrent fistulae and 1 with intersphincteric. 33/58(56.90%) of the anterior anorectal fistulae coincided with the GR, while the posterior ones coincided with this rule in 87.30%(110/126). From the cases with intersphincteric fistulae in 90.56 % there is match with the GR.

According to the localization of the internal opening ARF are divided into posterior in 112 patients/60.87%/, anterior in 39/21.20%/ and lateral in 18/9.78%/, from which left-lateral in 13/7.06%/ and right-lateral in 5 patients/2.72%/. In 15/8.15%/ internal opening was not identified, in 6 cases due to excessive fibrous tissue formation after recurrence and in 4 patients due to complexly curved fistula channel. In another 5 patients with very low ARF in the posterior part, direct and radial fistula channel was observed, differing from the classical rule where it is curved.

In 9 patients with horse-shoe ARF mismatch to GR was observed. Anterior horse-shoe ARF appeared in 3, where the external opening was more than 2,5 cm from the anal channel. In 6 patients with posterior horse-shoe ARF two external openings were observed in 4 patients and three in 2 patients. In most cases of ARF we have applied the ligation method.

DISCUSSION

The radical treatment of ARF requires excision of the fistula channel, exact revision and management of the present abscess cavities and liquidation of the internal fistula opening/3,6,9/.

The external opening is easily identified as a small oval lesion /papule/ secreting pus under pressure. The keystone of the ARF surgical treatment is the exact positioning of the external opening and precise identification of its connection with the anal channel and the internal opening. According to the cryptoglandular theory of the origin of ARF and ARA, the internal opening is always situated in one crypt of Morgan on the dentate line. For every surgeon – coloproctologist is of crucial importance to identify the fistula channel with both the internal and external opening/9,10/. The surrounding tissue of the fistula channel is fibrously hardened, which can be easily palpated as fibrous string around the anus or in digital probing the anal channel. The affected crypt of Morgan is always harder and secreting pus under pressure on anoscopy. In difficult cases we inject hydrogen peroxide and methylene blue for the identification of the internal opening/11,12/.

In single cases we have used fistulography, transanal sonography and MRI, especially in recurrent fistulae. The essential step in the ARF operative treatment is the exact identification of the internal opening according to the GR. We verify this rule by placing under anesthesia a

ballpointed tip probe of plastic metal through the external opening of the fistula, searching with the index finger in the submucosa of the rectum the tip of the probe, until it enters the anal channel freely, without pressure.

CONCLUSION

Most of the patients with ARF have previous complaints of spontaneously opened or incised ARA. The basic step for the radical of ARF is clarifying the exact positioning of the external opening, course of the fistula channel and its connection with the anal channel by the internal opening. Although in most of the ARF cases GR corresponds, there are cases of mismatch. The very low ARF in the posterior part have not curved but direct course to anal channel. The GR enables the surgeon to find the direction of ARF channel, avoiding false channel identification and unnecessary traumatizing in the anorectal region.

Being aware of the cryptoglandular theory of the origin of ARF and ARA, and knowing the anorectal anatomy, the surgeon can effectively treat this common proctologic disease.

The GR demonstrates specific dependency between the position of the internal opening, according to the location of the external opening. Exceptions of this rule exist in the anterior fistulae and those lying more than 2.5 cm from the anus, which was approved by our study/sensitivity of 56.90 %/.

The GR shows highest utility in posterior fistulae /sensitivity was 87.30 %/.

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