

Relevance Of Goodsall's Rule In Fistula-In-Ano

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ABSTRACT : In the year 1900 David Henry Goodsall described a rule regarding relationship of 'external opening to the tract' in cases of Fistula-in-ano. According to Goodsall's rule 'if the external opening is anterior to the transverse anal line and within 3 cm. from the anal verge, the internal opening will be in straight radial line. But, if the external opening is behind the transverse line or more than 3 cm. from the anal verge, the internal opening will be at the posterior midline of the anal canal. In such cases the tract will be a tortuous one. We tried to justify his postulation by analyzing about 70 patients of fistula-in-ano.

ABBREVIATION

IS—Internal sphincter

SM—Sub-mucosal external sphincter **SF**—Superficial external sphincter

DE—Deep external sphincter **PR**—Pubo-rectalis muscle

LA—Levatorani muscle **Fistula**—Fistula-in-ano

Tract—Hollow tract of fistula

KEY WORD: Fistula, Tract, Internal and external openings.

I. INTRODUCTION

Fistula-in-ano is a hollow tract lined by granulation tissue and connects a primary opening inside the anal canal to a secondary opening in the perianal skin. It is almost twice as common in males as in females. Before proceeding to our study, we went through the related works done by Saino P. (1), Dennis F Zagrodnik (2), Steve Halligan (3), Belliveau P. (4), Cosman BC (5) and Rosen L. (6). Ross ST (7) and Cirocco WC (8) also did some significant work on fistula-in-ano. Parks et al analyzed about 400 cases at St. Mark's Hospital, London and classified fistula-in-ani into 4 groups. As there has been a rise in the conflicting data regarding the positive predictive value of the Goodsall's rule, we tried to analyze the cases as the correctness of the rule saves much time and money of the patient in investigations and management as well as help the surgeons to plan the surgery early. In a study done by Barwood et al (9) in 1997, it was revealed that the Goodsall's law was 91% accurate in cases of posterior opening and only 69% in anterior openings. In another study done in 2001 by Gunawardhana PA and Deen KI (10) in 35 patients, it was found that Goodsall's law was correct only in 59% of cases. Similarly, in 2005, Hirranyakas et al's (11) study showed only 58.82% of accuracy of Goodsall's law.

II. OBJECTIVES

- [1] To study the validity of Goodsall's rule.
- [2] Applying the rule on the patient who is coming to the ward for fistula-in-ano management.
- [3] Saving the cost of doing other invasive diagnostic method which could be a burden either to the patient or to the establishment.

III. MATERIAL AND METHOD

All the patients suffering from fistula-in-ano and admitted to the Hospital SultanahBahiyah, AlorSetar, Malaysia during 2010 to 2012 were selected for this study. They belonged to all age group and from both sex.

IV. EXCLUSION CRITERIA

1. Patients, whose records were either lost or incomplete.
2. Complex fistula-in-ano.

All the findings were recorded in tabular form .

Findings

Age group of fistula patients-----

Age in years	Number of patients	Percentage %
1-20	3	4.2
21-40	36	50.7
41-60	25	35.2
61-80	7	9.9
Total	71	100

Gender	Number of patients	Percentage
Male	60	85
Female	11	15
Total	71	100

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Sex incidence

Race incidence—

Race	Number of patient	Percentage
Malay	52	73
Chinese	9	13
Indian	8	11
Others	2	3
Total	71	100

Intra-operative findings of fistula-in-ano—

	Anterior opening	Posterior opening	Total
Direct tract	15	20	35
Indirect tract	13	23	36
Total	28	43	71

Position of opening	Percentage %
Anterior	39
Posterior	61

Patients that followed Goodsall's rule—54%

Patients that did not follow Goodsall's rule—46%

V. DISCUSSION AND CONCLUSION

The tabulated findings are self-explanatory. Out of 71 patients of fistula-in-ano admitted in Hospital SultanahBahiyah, Alor Setar, Malaysia from 2010 to 2012, 60 were male and only 11 females. Out of these only 54% patients with external opening anterior to the transverse anal line and 53% with posterior external opening complied with Goodsall's rule. Hence, it is quite evident that Goodsall's rule does not give us definite information regarding the tract or the internal opening. The rule, however, gives us a clue and we should proceed for other investigative tools before planning surgery for fistula-in-ano.

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