Fistula-in-Ano in Childhood: A Congenital Etiology

By Raymond J. Fitzgerald, Brendan Harding, and William Ryan
Dublin, Ireland

● **In a comparative study of fistula-in-ano and perianal abscess, over a 12-year period, evidence is presented to suggest that fistula-in-ano in childhood has a congenital etiology.**

INDEX WORDS: Fistula-in-ano; perianal abscess.

THE CASE notes of patients who presented with fistula-in-ano, at two pediatric hospitals in Dublin from 1969 to 1981 were studied and compared with perianal abscesses which presented over the same period. The hospitals cared for children up to the age of 14 years.

MATERIALS AND METHODS

Fistula-in-Ano

There were 21 patients in this series. Two were female. Fourteen patients presented at or under 3 months of age (70%). Seventeen patients presented under 12 months of age (85%) and all but one of the patients presented under 18 months.

Ten of the patients presented with a perianal discharge and a diagnosis of fistula-in-ano was made when they were first seen. The remainder presented with a fustula-in-ano but also had a history of a previous perianal abscess which had been treated by incision and drainage.

The external opening was situated anterolaterally in eight patients, laterally in eight patients, and posterolaterally in three. They were equally distributed between right and left sides. Two had a double fistula, placed anterolaterally left and right. All were low anal fistulae.

In two cases the wound was sutured after excision of the tract. Both healed well. All of the other patients were treated by laying open the tract. One patient had a recurrence of the fistula. He was treated at another center.

Perianal Abscess

There were 61 cases in this group. None of these children were shown to have a fistula-in-ano.

The important points taken from this review were that 17 of the 61 patients were female (27.8%) and 42 (68.8%) of them were over 2 years of age when they first presented.

From The Hospital for Sick Children, Temple Street, Dublin 1, and Our Lady's Hospital for Sick Children, Crumlin, Dublin 12.

Address reprint requests to Mr Raymond J. Fitzgerald, Consultant Paediatric Surgeon, Our Lady's Hospital for Sick Children, Crumlin, Dublin, 12, Ireland.

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DISCUSSION

In 1880 Herman and Desfosses[1] first demonstrated the anal glands and suggested that infection in them could be the cause of fistula-in-ano. This was stated more emphatically by Eisenhammer.[2] He ascribed most anal fistulae and abscesses to anal gland infection and went further when he wrote that "the abscess is the parent of the fistula." Parks,[3] having excised fistulae-in-ano, provided good histological evidence that this theory was true but, nevertheless, in some of this material, found cystic dilatation of anal glands which he stated could be either acquired duct obstruction or congenital abnormality.

If we compare fistula-in-ano with perianal abscess (in childhood), we find that all except one (6%) of the patients with fistula presented under 18 months of age, whereas 68.8% of patients with an abscess presented over 2 years of age. One of our patients presented on the second day after birth, and three within 3 weeks.

To explain the early onset of fistula-in-ano we suggest that there are abnormal anal glands at birth. These glands may discharge to the skin surface spontaneously. In some cases infection precedes this occurrence but we feel that infection has a secondary role to play.

Two of the 21 patients in the fistula series were female whereas 17 of 61 patients in the abscess series were girls. The different sex distribution between these conditions with the occurrence of fistula-in-ano and abnormal anal glands almost exclusively in males could be best explained on a hormonal basis.

Two of our patients and 10 of 50 in Duhamel's[5] series were multiple, suggesting a generalized effect that could be brought about by circulating hormones.

Takatsuki[4] suggests that an excess of androgens may be related to the occurrence of fistula-

in-ano in addition to being part of a generalized stimulation of sebaceous glands occurring after birth.

We speculate that an androgen excess on androgen-estrogen imbalance or androgen-sensitive glands in utero causes the formation of the abnormal glands.

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