

ORIGINAL ARTICLE

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Conservative management of fistula in ano in infants

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Abstract We analyzed the natural course of fistula in ano (FIA) and/or perianal abscess (PAA) in 97 children (male: 90, female: 7) and recommend conservative management in infants. Nearly one-half of these children had no recurrent episodes, and 80% of the infants recovered spontaneously within their 1st year of life. A radical operation was required in only 6 children after 2 years of age. Two-thirds of the children with a PAA did not develop fistula. Of the children who developed FIA, 42% had no recurrence. Although the duration of FIA was relatively longer than that of PAA, 55% of the children were cured within 1 year. PAA and/or FIA in infants is likely to be a period-limited disorder that occurs mainly in infancy and spontaneously resolves within 1 year of life. Fistulotomy or fistulectomy should be avoided in infants.

Key words Anal fistula · Fistula in ano · Perianal abscess · Infants

Introduction

Fistula in ano (FIA) is usually observed in association with occasional recurrence in infants under the age of 1 year, and surgical intervention is often employed as the main treatment. However, there are few reports of the management of FIA in infants [1–3]. The purpose of this paper was to analyze the natural course of perianal abscess (PAA) and/or FIA, and we recommend conservative management.

Patients and methods

Between October 1983 and March 1996, 97 children (male: 90 and female: 7) with PAA and/or FIA were treated in our clinic. Ages at

the first visit ranged from 5 days to 14 years (Fig. 1). FIA was defined by the opening persisting over 3 weeks after incision or a discharge apparent in stools.

Our standard management was as follows: Children usually had a PAA with or without pus drainage at the time of the first visit. A single radial skin incision was made on the abscess for draining the pus. We instructed parents to keep the incision open by stretching the skin at the time of each diaper change. A sitz bath was also strongly recommended at every diaper change. Neither a disinfectant nor an antibiotic ointment was used on the incised wound. Oral antibiotics were not administered. When stools were loose or watery, medication was employed to maintain formed stools. Changing of milk was occasionally needed to counteract diarrhea due to lactose intolerance or allergy to a milk formula. On recurrence, the PAA was incised again and managed in the same way. However, when FIA persisted after the 2nd birthday or no healing tendency was evident, fistulotomy or fistulectomy was performed.

The numbers and locations, frequency of recurrence, time to cure, and operations were analyzed for PAA and FIA.

Results

Eighty-seven (89.7%) of the 97 children were under the age of 1 year (Fig. 1). FIA or PAA most frequently affected children in the initial 2 months of life and gradually decreased with age. Sixty-nine (71.1%) patients were under 6 months of age. A single skin lesion was present in 71 children and multiple lesions in 26 (2 lesions in 18 children, 3 in 7, and 4 in 1), for a total of 132 lesions observed. The most commonly affected site was at 9 o'clock with 47 lesions, followed by 3 o'clock with 39 lesions (Fig. 2). Eighty-six (65.2%) of the 132 lesions were located at these two sites.

In 47 (48.5%) children, the PAA/FIA was cured after a single episode; recurrences were seen in 50 cases (Fig. 3). Sixty-four patients with PAA (66.0%) were cured without fistula formation within 3 weeks after incision, and 33 (51.6%) abscesses were cured after a single episode, while 14 (42.4%) of the 33 FIAs were cured after a single episode. Among 33 FIAs, 6 children required surgical intervention: 2 at 4 years of age and 1 each at 7, 8, 14, and 18 years of age, respectively, while in the remaining 27 (81.8%) recovery was spontaneous.

Fig. 1 Age distributions of perianal abscess and fistula in ano

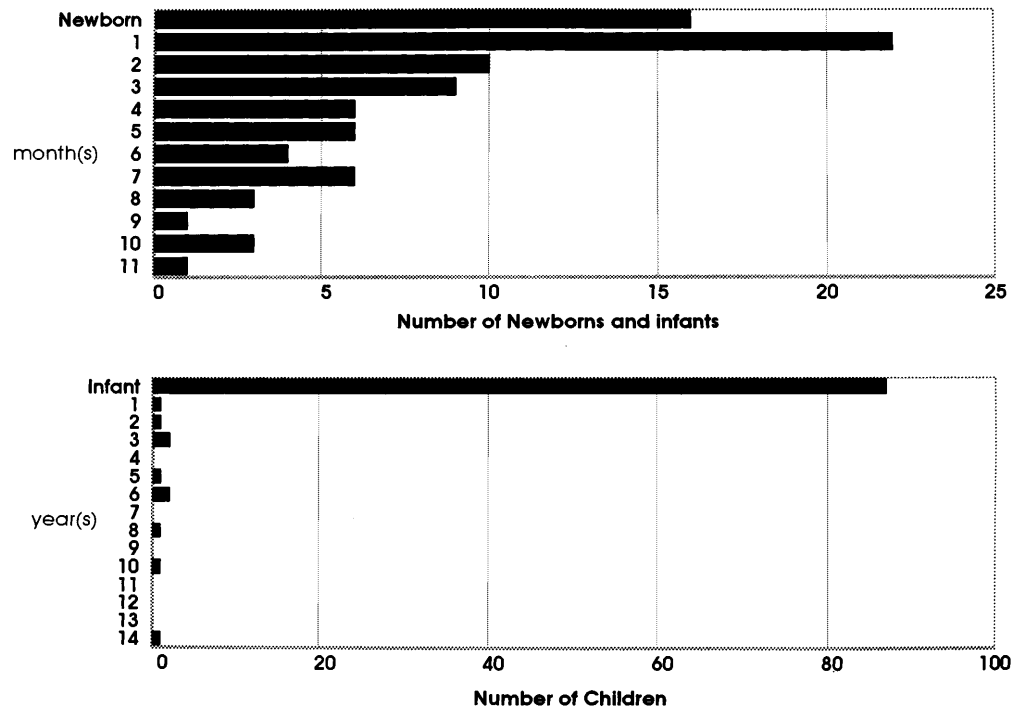
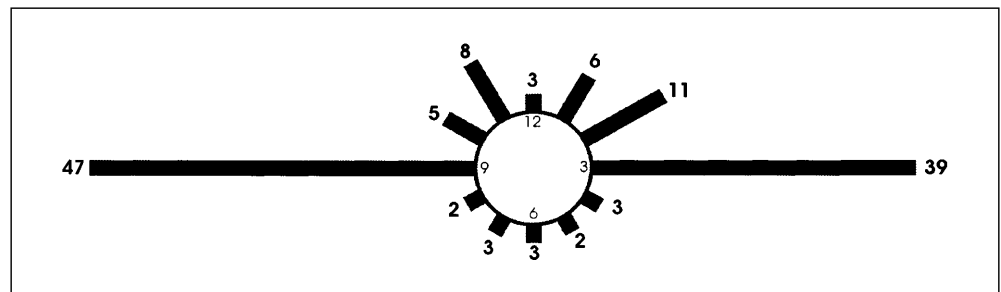


Fig. 2 Location of perianal abscess and/or fistula in ano: 9 o'clock and 3 o'clock were most frequently affected site (65.2% of lesions)



Therefore, a total of 91 children (93.8%) did not require surgery except for a simple skin incision.

The PAA/FIA was cured within 1 month in 27 children (27.8%) and within 6 months in 68 (70.1%)

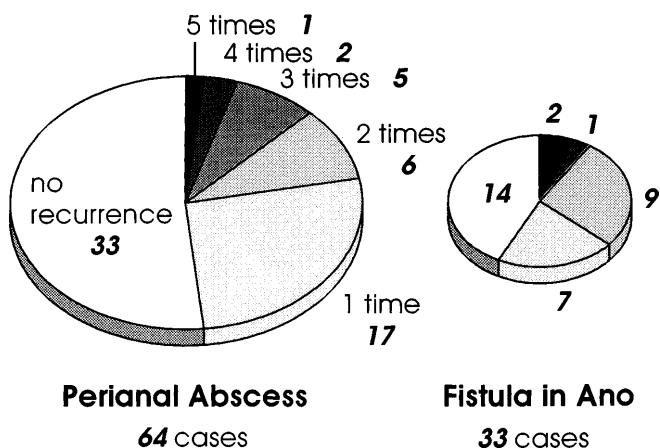


Fig. 3 Frequency of recurrence of perianal abscess and fistula in ano

(Fig. 4). All but 3 perianal abscesses that did not form a FIA were cured within 9 months, although one-half of these babies experienced several recurrences of the abscess, whereas FIAs tended to take longer to cure: 18 (54.5%) of 33 patients were cured within 1 year. One patient who underwent a fistulotomy for a FIA at the age of 18 years had had only one previous episode of PAA at 1 year of age.

Discussion

Although PAA and FIA are commonly observed in infants, there have been only a few published reports [2–4, 6]. Treatments include simple incision and drainage, fistulotomy, and fistulectomy with or without sphincterotomy, which may cause anal dysfunction [5]. Nearly one-half of the children showed no recurrent episode, and 80% tended to recover spontaneously within 1 year. In our series, fistulotomy or fistulectomy was required in only 6 children (6%), all of whom were over the age of 4 years. Two-thirds of the PAAs remained abscessed and

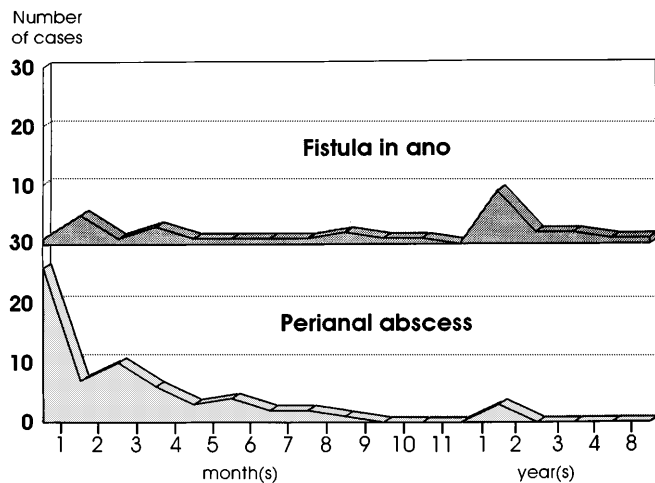


Fig. 4 Interval between first pus drainage and complete cure: within 1 month in 27 children (27.8%) and 6 months in 68 (70.1%)

did not develop into FIA. Even in children who developed a fistula, 42% had no recurrence. Although the duration of the disease is relatively longer for FIA than PAA, more than one-half of the children were cured within 1 year. PAA or FIA in infancy is a period-limited disorder that occurs mainly in infants and almost always spontaneously resolves within 1 year of life. The age distribution of PAA and FIA supports this concept (Fig. 1).

Anal crypt infections cause PAA and FIA in both adults and infants [2, 4]. However, the etiology in infants may involve a different mechanism, because in our study nearly one-half were cured after one episode, while two-thirds remained as PAAs without developing into fistulas. Dermal infections might be a cause [6]: diaper dermatitis causes PAAs that do not tend to develop into FIA after drainage. In our series, therefore, nearly one-half of the lesions might be due to dermal infections. Although it is difficult to clinically differentiate between these two mechanisms in the development of abscesses, micro-organisms causing the abscess would suggest an infectious pathway. The infectious organisms may be different in males and females [2]: *Escherichia coli* seems to be the main organism in males, *Staphylococcus aureus* in females.

After incision and drainage of a PAA, a sitz bath is strongly recommended, especially when the abscess is combined with diaper dermatitis. We do not use any kind of ointment or disinfectant; washing and keeping the buttocks clean is most essential. Diarrhea usually worsens a FIA and causes it to persist. If a baby has loose stools or watery diarrhea, medication is applied to keep the stools firm. Lactose intolerance or some kind of allergy should be considered when diarrhea is prolonged; changing the milk formula may be effective. Accordingly, we do not use oral antibiotics after abscess incision so as to avoid loose or watery diarrhea, in contrast to Longo et al. [3].

PAA and FIA in infancy is a time-limited disorder that mainly develops within the 1st year of life. We prefer to avoid radical surgery such as fistulotomy or fistulectomy in this age group. Persistent anal-ring deformities or scarring at the anal ring are usually caused by these operations. Although recurrence is frequent, these episodes can be managed easily by the parents without a heavy physical or mental burden. After conservative management, more than 90% of infants will be cured without a fistulectomy or fistulotomy. A strategy in the management of this condition should be to wait for about 1 year with minor morbidity, following which the vast majority of patients will no longer have it. Simple incision and drainage of the PAA and keeping the buttocks clean is the treatment of choice in infancy.

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