

## Case Report

# Seton Placement for Fistula-in-ano in Children

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### Abstract

Fistula-in-ano (FIA) is a common condition in infancy, often accompanied by perianal abscess (PA). Primary treatment approach is conservative whether it is PA or FIA. The most frequently performed surgeries in non-healing FIA are fistulotomy and fistulectomy, in which the recurrence rate is between 0 to 68%. Seton placement used in adult patients especially in intersphincteric fistulae in the treatment of FIA has been used in a limited number of studies conducted in children. It was our aim with this study to present our experience in three patients on whom seton placement was carried out in FIA by using the wristband part of the surgical glove. Recurrence was not seen in seton placements conducted in our patients. Operation time is usually limited to 20 minutes. Moreover, the material used as seton in our study was the wristband of the surgical glove, which is both cheap and easy to use. Seton placement used quickly and cheaply for FIA in children should be preferred due to no recurrence and incontinence.

### Key words

Children; Fistula-in-ano; Seton placement; Treatment

### Introduction

Fistula-in-ano (FIA) is a common condition in infancy, often accompanied by perianal abscess. Perianal abscess (PA) in children is associated with a 20 to 85% overall rate of progression to FIA.<sup>1</sup> Primary treatment approach is conservative whether it is PA or FIA. FIA can

spontaneously heal. The most frequently performed surgeries in non-healing FIA are fistulotomy and fistulectomy, in which the recurrence rate is between 0 to 68%.<sup>2,3</sup> Seton placement used in adult patients especially in intersphincteric fistulae in the treatment of FIA has been used in a limited number of studies conducted in children.<sup>1,3,4</sup> It was our aim with this study to present our experience in three patients on whom seton placement was carried out in FIA by using the wristband part of the surgical glove.

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Received November 9, 2016

### Case Reports

#### Case 1

A 2-year-old boy received drainage and antibiotic treatment for perianal abscess located 2.5 cm away from the anus at the 9 o'clock position in the lithotomy position, which developed after he was 7 months old. However, an external opening emerged after the second relapse and continuous discharge was noted, suggesting the diagnosis of FIA.

### Case 2

A 13-year-old patient developed perianal fistula with discharge, approximately 3 cm away from the anus in 10-11 o'clock position in the lithotomy position, which persisted for one year despite receiving treatment for perianal abscess several times.

### Case 3

The 1.5-year-old boy received drainage and antibiotic treatment for perianal abscess located 3 cm away from the anus in the 3 o'clock position in the lithotomy position since 11 months of age. However, an external opening emerged after the second relapse and continuous discharge was noted, and therefore the patient received FIA diagnosis (Figure 1).

When these three patients applied to our clinic for treatment, seton placement was decided to be performed after having received necessary consents. The patients did not report latex allergy and there were no predisposing factors in our patients and their families. Patients were put in lithotomy position after being anaesthetised. The fistula was revealed by pushing the 17-gauge blunt needle from the external opening of the FIA to the internal opening at the level of the anal crypt. Following this, the skin between the internal and external openings of the FIA was incised above the blunt needle. On the next stage, the thin, hard, flexible ring in the wristband part of the surgical, sterile glove was cut and used as seton, and it was passed through the fistula with the guidance of the needle. In both cases, two tips of this modified seton were connected in a way to not cut over the fistula. The tightness of the seton was adjusted in a way to leave half of the distance between the internal and external openings of the FIA (Figure 2). These operations lasted twenty minutes including anaesthesia procedures. The patients were given oral antibiotics and sitz bath with batticon. While the seton dropped

spontaneously on day 15 in the younger patients and 19 on the older patient, it was seen that the FIA healed. Allergy to rubber latex of the surgical glove was not seen in our patients during this procedure. While relapse was not encountered on the third and sixth months' follow-up of the patients, it was seen that the operation was also satisfying cosmetically. Incontinence was not seen in the patients, and none of the patients had additional diseases such as Crohn's disease.

## Discussion

FIA frequently develops after PA in children, and in cases that are not healed within 3 to 5-months of conservative treatment, fistulotomy or fistulectomy are recommended, with which the fistula tract is removed with the blocked anal crypt.<sup>1-4</sup> However, recurrence rate is high in childhood FIA cases whether it is treated conservatively or surgically. Seton placement in children as has been used in the treatment of adults with FIA has been infrequently reported in the literature. Seton was used in addition to fistulotomy or fistulectomy in six out of 17 patients in the series of Carmona et al, and it was also used in the series of Charalampopoulos et al since intersphincteric fistula was seen in only three out of 52 children under the age of two with FIA.<sup>3,4</sup> In the study by Inoue et al, which is considered the largest series of seton use in infants, FIA developed in thirty-six patients (40%) out of 90 with PA. Thirty-five out of the 36 patients (97.2%) recovered with seton use.<sup>1</sup> While 12% fecal incontinence was detected with seton use in adult patients



**Figure 1** Fistula-in-ano was shown in patient 3.



**Figure 2** Seton placement was done in patient 3.

with FIA, such a complication was not encountered in the study by Inoue.<sup>1,5</sup> But most cases of FIA in children tend to be superficial, low and very rarely trans- and intersphincteric. So incontinence problem is rare in FIA treatment in children.<sup>3</sup> In the series by Charalampopoulos et al, where fistulotomy, fistulectomy and only 3 setons were performed, no recurrence was seen in fifty-two cases with FIA, but five (15.1%) recurrences were seen in the series of Ezer et al with thirty-nine patients.<sup>2,3</sup> In the series of Niyogi, where the same procedure was applied, nine recurrences (23%) were seen in thirty-nine children under the age of 2 and seven recurrences (54%) were seen in children over the age of 8.<sup>6</sup> In two adult series, where seton was used, 0% and 3.9% recurrence rates were seen.<sup>7,8</sup> Recurrence and incontinence were not seen in seton placements conducted in children and in our study. Operating time was usually limited to 20 minutes. Moreover, the material used as seton in our study was the wristband of a surgical glove, which is both cheap and easy to use.

## Conclusion

According to short term results seton placement used quickly and cheaply for FIA in children should be preferred due to no recurrence and incontinence.

## Declaration of Interest

None

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