Case Report

Operative management of anterior anus: Case report on single-center experience in a rural hospital

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ABSTRACT

The anterior anus (AA) is a form of congenital anorectal malformation characterized by an anal position that is more anterior than the normal anatomical location, and is often associated with defecation disorders such as chronic constipation. We report the case of a 2-year-old girl who came with complaints of constipation since infancy, as well as the distance of the anus that seemed very close to the vagina. Clinical examination and anal position index calculations showed a value of 0.2, which confirmed the diagnosis of AA. Management is carried out through a reconstruction procedure without a colostomy. Post-operative evaluation showed significant improvements in the frequency and consistency of bowel movements. These results support the operative approach as the primary choice in cases of anterior anal with persistent functional complaints, in order to improve defecation function and improve the patient's quality of life.

Key words: Anal position index, Anorectal malformations, Anterior anus, Constipation

Congenital abnormalities of the digestive system are often a medical concern, especially in the field of pediatric surgery. One of the rare congenital abnormalities that have a great effect on the quality of life of sufferers is the anterior anus (AA). Being born with anorectal malformation (ARM) often leads to lifelong issues with fecal and urinary function, as well as challenges in sexual, emotional, and psychosocial development. Cases of AA usually occur without complaint but are often associated with defecation disorders such as difficulty with bowel movements, incontinence, and sphincter muscle disorders. Even when anatomical correction is achieved, full functional recovery is not guaranteed [1]. ARM and Hirschsprung's disease (HD) are the most common congenital colorectal anomalies [2]. However, the association between HD and ARM is rare, with HD coexisting with ARM reported in 2.3 to 3.4% of ARM cases [3]. Despite advances in surgical techniques, the short- and long-term physical and psychosocial morbidity of these patients remains high [2]. Cases of AA usually occur without complaint but are often associated with defecation disorders such as difficulty with bowel movements, incontinence, and sphincter muscle disorders. The diagnosis of AA was enforced by measuring the anal position index (API), with normal results of <0.48 in men and <0.34 in women [4]. In 2010, a study conducted in Thailand on the position of the anus in newborns found that the AA occurs more in women (32.0%) compared to men (17.7%) [5]. The approach to AA therapy is still a matter of debate, with some medical centers opting for conservative methods, whereas others recommend surgical intervention. Studies show that operative measures can improve anal position, improve fecal continence, and reduce the risk of long-term complications. Taking an operative approach is the main choice in the treatment of AA in this hospital, especially in patients with functional disorders [6].

This case report aims to report our experience in the management of AA operatives, as well as evaluate medium- to long-term post-operative outcomes in regional hospitals.

CASE REPORT

A 2-year-old child patient was escorted by parents with complaints of constipation and an abnormal gap in the genital area, namely the gap between the anus and vagina, appearing close together. The patient is known to have complaints of irregular bowel movements since infancy, often constipation, and very infrequent bowel movements, namely once a week. The patient's bowel movements also tend to be hard, so patients are often

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seen straining hard when defecating.

At the localized status of the genital externa, from the inspection, it appears that the anus has shifted toward the anterior. API examination showed a score of 0.2 (Fig. 1). Unfortunately, specific anatomical data regarding the patient's anus–vaginal distance at birth and throughout her growth were unavailable. However, comparison with age-matched children without ARM revealed a discrepancy in the API calculation.

A reconstruction procedure is applied to correct the position of the anus in this patient. One-week post-operative results showed improvement in frequency and consistency of defecation. The patient's parents said that the patient defecated daily with a normal consistency without the help of medication. At the 1-month post-operative follow-up, the patient's parents reported resolution of her bowel movement complaints. They stated that she was having one bowel movement per day with normal consistency, without the need for medication.

DISCUSSION

AA is defined as a normal variant of the anus that is located more anteriorly along the perineum of normal caliber and is completely surrounded by an anal sphincter complex. In the literature, short- and long-term outcomes are reported inconsistently and selectively due to significant differences in how they are documented [1]. The diagnosis of AA was enforced by measuring the API with normal results of <0.48 in men and <0.34 in women [1]. If HD is associated with ARM, diagnosis may be somewhat difficult because the underlying ARM can mask classic Hirschsprung symptoms [3]. In our review, the diagnosis of HD was made after a median delay of 8 months from the initial diagnosis of ARM [3]. Patients and their parents should be encouraged to increase their self-awareness of the disease and learn coping strategies [2]. In 2010, a study conducted in Thailand on the position of the anus in newborns found that the AA occurs more often in women (32.0%) compared to men (17.7%) [5].

The patient was escorted for examination because there was a problem with his defecation habits. This habit is in the form of a frequency of defecation that is rarely accompanied by the growth of a lump between the vagina and anus during defecation. AA is often associated with poor bowel habits, mostly constipation. A study conducted in Thailand showed that out of 75 neonatals diagnosed with AA, 12.0% of them experienced complaints of constipation [7]. The incidence of constipation in female infants was higher (14.4%) than in males (9.5%). At 2 months of age, AA occurs in 10.0% of infants with constipation (2 out of 20 infants). At 4 months of age, AA occurs in 33.3% of infants with constipation (3 out of 9 babies). At 6 months of age, AA occurs in 71.4% of infants with constipation (5 out of 7 babies) [5].

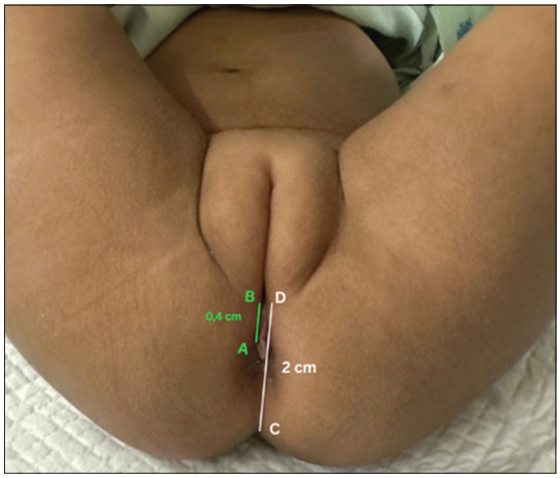

Figure 1: Pre-operative genitalia externa region inspection

A common clinical manifestation found in anterior anal cases is defecation-like disorders. In this patient, complaints of bowel movements with less frequent frequency were obtained, accompanied by lumps that swelled during bowel movements. Constipation often occurs in the AA because the anus is located more anterior than its normal position. This can disrupt the normal defecation mechanism because the angle between the rectum and the anus becomes less than optimal for stool emptying. In case of AA, the pressure from intra-abdominal forces and intestinal contractions directs the stool toward the posterior of the anus, creating a cul-de-sac. If the stool is not soft enough, it becomes difficult for it to turn and pass through the anus [8]. In the API examination of this patient, a result of 0.2 was obtained, which is normal in female patients, normally above 0.34 [9]. In girls, the anal index is calculated by Fourchette-anal distance (cm)/Fourchette-coccygeal distance (cm).

Stool softening was performed in most cases of AA as the initial therapy. This approach aimed to determine whether the straining complaints were caused by large and hard stools leading to pain and difficulty in defecation. Operative intervention was only considered if the symptoms persisted despite effective stool softening. The surgical procedure was simple and yielded satisfactory results. No patient experienced a recurrence of symptoms after surgery with follow-up at 6 and 15 months [8].

In this case, patients with AA underwent operative management in the form of reconstruction selected based on clinical considerations that surgical correction can optimize defecation function and reduce the risk of long-term complications (Fig. 2). Age, gender, disease severity, associated anomalies, and surgical techniques affect health-related quality of life [1]. Routine long-term follow-up and early multidisciplinary collaboration in specialized teams are strongly recommended to support patients with ARM/HD1. Some previous studies have shown that a conservative approach can be applied in some asymptomatic cases of AA, but in patients with significant functional impairment, surgical intervention is more recommended to prevent complications such as

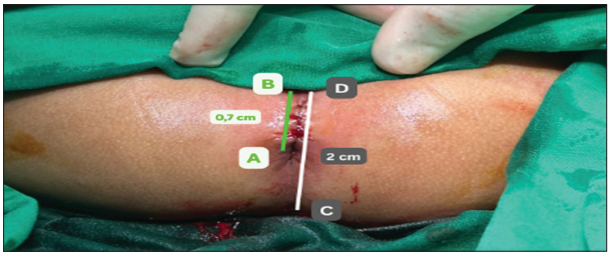

Figure 2: Inspection of the genitalia externa post-operative region

chronic constipation or fecal incontinence [6] However, in another study conducted by Caruso *et al*., in which the diagnosis of AA was also established using the API in a total of 50 patients over the age of 3 years, only 10% were reported to experience constipation, which was managed with simple conservative measures such as laxatives, dietary modification, and toilet training. Interestingly, none of the patients required surgical intervention during the follow-up period. This finding suggests that conservative management of AA is not only safe but may also be effective in the long term. The study further emphasizes that AA without significant symptoms should be managed conservatively, and surgery is not always recommended as the primary therapeutic option [10].

In this report, a reconstruction procedure is applied to correct the position of the anus. Previous studies have shown that this technique is effective in improving fecal continence and improving patients' quality of life, in another study that used surgical procedures, namely, by performing an anal shift procedure. The technique is performed by moving the position of the anus to a more anatomical location without the need for a colostomy. The results of the procedure show that it is safe, simple, and provides good functional and cosmetic results. One-week post-operative results showed improvement in frequency and consistency of defecation. At the 1-month post-operative follow-up, the patient's parents reported resolution of her bowel movement complaints.

CONCLUSION

This patient was diagnosed with an AA based on clinical complaints and physical examination. This condition often causes constipation due to the angle of the anal canal that obstructs the passage of feces. This condition frequently leads to constipation due to the angulation of the anus, which hinders fecal evacuation. The diagnosis was confirmed by the measurement of the API, which in this patient showed a value of 0.2. Although not a life-threatening condition, the anterior anus can decrease a patient's quality of life. Therefore, we performed a surgical procedure in the form of reconstruction to correct the position of the anus after considering its better long-term benefits compared to conservative treatment.

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