CASE REPORT

The Importance of Intraoperative Evaluation in the Management of Anorectal Atresia

J C Ramesh, FRCS*, Lu, FRCS, D Balasingh, MS**, A Qureshi, FRCS***

*Department of Surgery, International Medical University, Sesama Centre-Plaza Komanwel, Bukit Jalil, 57000 Sri Petaling, Kuala Lumpur, **Department of Surgery, Seremban General Hospital, Seremban, Negri Sembilan

Summary

We report a neonate with anorectal atresia in whom preoperative evaluation prior to definitive operation revealed a short gap atresia. However, bidigital evaluation at operation revealed a septal atresia that was easily perforated from below through the anus. Unnecessary division of the anorectal sphincter complex was thus avoided.

Key Words: Atresia, Anorectal atresia

Introduction

The incidence of anorectal malformations is about 1 in 5 000 live births[1]. Anorectal atresia is a rare anomaly accounting for less than 1% of all anorectal malformations. Anorectal atresia is also the only anomaly in the spectrum with a normal anal canal. Generally, the result of treatment is good[2]. A variety of surgical approaches, some involving extensive procedures have been adopted to achieve this. What is important however is to achieve a good result with minimal damage to the anal sphincter muscle complex. This paper highlights an important operative step that can achieve this objective in appropriate cases.

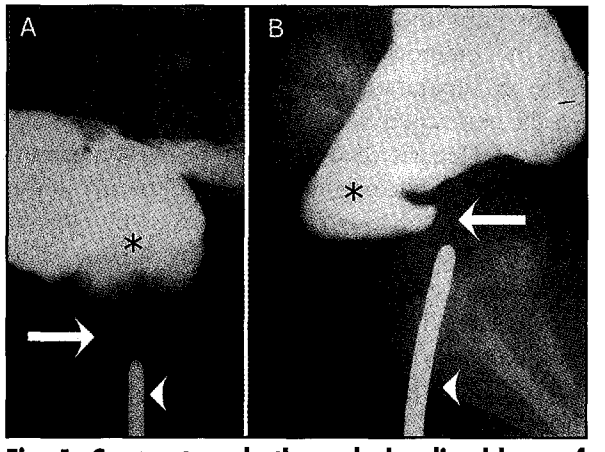

Fig. 1: Contrast study through the distal loop of colostomy (☞) with a metal dilator in the anal canal (arrowhead), anteroposterior (a) and lateral (b) views. Note the gap between the proximal and distal pouch (arrow)

This article was accepted: 16 May 2002

Corresponding Author: J C Ramesh, 33A, Jalan 17/1, Block A-4, Condo 3-A, Astana Damansara 46400 Petaling Jaya, Selangor, Malaysia

Case Report

A one-day-old term male neonate was admitted to the neonatal ward for non-passage of meconium. Physical examination revealed a distended abdomen with a normal anal opening. A rectal catheter however, could not be negotiated 2 centimeters beyond the anal verge. A diagnosis of anorectal atresia was suspected. Gentle passage of a rectal thermometer met with the same result. A diagnosis of rectal atresia was made and a transverse loop colostomy performed. A distal colostogram performed two weeks later after placing a metallic dilator in the anus revealed a gap of 6 millimeters between the proximal and distal pouches (Fig. 1). A short gap anorectal atresia was diagnosed. Definitive operation by a posterior sagittal approach was planned at four weeks of age. At operation, the first step was to identify the proximal pouch just below the level of the coccyx. An enterotomy into the proximal pouch was performed before the division of the sphincter complex. Bidigital evaluation to determine the actual gap between the pouches was carried out by placing one finger in the anus and the other in the proximal pouch via the enterotomy. This revealed a very thin septum separating the two pouches. This was easily perforated with a dilator from below. A size 14 Hegar's dilator could be easily passed across the atretic segment. The enterotomy in the proximal pouch was closed followed by closure of posterior sagittal wound in layers. The transverse loop colostomy was closed three weeks later. The parents were instructed to carry out daily anorectal dilatation for two months. Presently the infant is 9 months of age and has a normal bowel habit. Rectal examination revealed a thin but dilatatable fibrous ring at the original site of the septum.

Discussion

The pathological anatomy of anorectal atresia is variable and 4 grades of this anomaly has been recognised; long-gap, short gap, septal type and anorectal stenosis[1]. The sphincters are generally well developed in anorectal atresia and the puborectalis sling usually hugs the lower pouch[1,2].

Following decompression colostomy, the atresia should be evaluated radiologically with the aim of determining the length of the atretic segment to plan the operative approach. Distal colostogram provides the necessary details[2]. Magnetic resonance Imaging using a dedicated endoanal receiver coil, if available, can provide a precise definition of the anal sphincter complex and may also be useful in determining the type of anorectal atresia. The rarity of this lesion and a variable pathological anatomy has led to several surgical approaches in the correction of this anomaly[1,3]. In our case we planned to perform a posterior sagittal anorectoplasty with an end-to-end anastomosis of the two segments within the puborectalis sling. Presently, this approach is well established in the management of most anorectal malformations including anorectal atresia[2]. Intraoperative bidigital evaluation showed that the gap noted in the contrast study was misleading. This apparent discrepancy can be due to the interposition of the soft tissues and anorectal sphincter complex that may give a false impression of a substantial gap. Bidigital evaluation can displace the soft tissue and reveal the true gap between the pouches. This experience shows that preoperative bidigital evaluation is important and should be attempted whenever feasible, before the sphincter complex is completely divided. One may need to be cautious not to overstretch the pouches as this can mislead the assessment of the true gap between the pouches. The proximal pouch

should be identified and opened first before dividing the sphincteric complex and exposing the lower pouch. This could avoid unnecessary division of muscle fibers of the sphincteric complex and a good functional outcome can therefore, be expected with this approach.

References

1. Dorairajan T. Anorectal Atresia. In: Stephens FD and Smith ED, (eds). Anorectal malformations in children: Update 1988. New York: Alan R. Liss Inc, 1988: 104-110.
2. Pena A, Hong A. Advances in the management of anorectal malformation. Am J of Surg 2000; 180 (5): 370-6.
3. Vaneerdeweg W, Hubens G, Deprettere A. Mucosal proctectomy and colo-anal anastomosis: a treatment of rectal atresia. J Pediatr Surg 1995; 30(12): 1722-3.