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## Acquired intestinal atresia in young girl: Extremely rare case



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### ABSTRACT

**Background:** A postnatally acquired ileal atresia is very rare. Only few cases are described in literature and the etiology is still unclear.

**Case Description:** A Girl 15 years old was referred to Zainoel Abidin hospital with abdominal distention and can't pass motion for 10 days ago. She also had intermittent colicky pain and billious vomiting. Previously, she had surgical correction for anorectal malformation with rectovestibular fistulae. Physical examination revealed tachycardia and tachypnea with abdominal distention as well as metallic sound even though there was no sign of peritonitis. Anal position index was normal

and rectal vault collapse. Potassium level was low. Abdominal x-ray revealed multiple air-fluid level and gas only in the ileum level with dilatation all small bowel. Exploratory laparotomy was prompted and there was acquired atresia (type II) in the ileum 70 cm from ileocaecal valve due to adhesive band that twisted the bowel to the umbilical area. Proximal tapering and anastomosis end to end ileoileal were performed. She was discharged on operative day 7 with uneventful recovery.

**Conclusion:** Intestinal atresia typically presents in neonatal period with the classical symptoms of abdominal distension and vomiting.

**Keywords:** acquired intestinal atresia, small bowel obstruction, adhesive band.

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### INTRODUCTION

Intestinal atresia is a congenital obstruction of the intestine, sometimes associated with a loss of tissue, resulting in a disruption of intestinal continuity. An atresia can occur anywhere throughout the gut, including the oesophagus, pylorus, pancreatic duct, bile duct and rectum. The incidence of intestinal atresia is approximately 1 in 4000 live births. In 1955 a landmark

study conducted by Louw and Barnard documented that intrauterine mesenteric vascular accidents were responsible for most jejunoileal atresias.<sup>1,2</sup> Acquired or postnatal atresia could arise from a similar aetiology like congenital small bowel atresia but still debate and unclear.<sup>3</sup>

This article describes a case of acquired ileal atresia in a 15 years-old female who had an adhesive small bowel obstruction.

### CASE REPORT

A Girl 15 years old was referred to Zainoel Abidin Hospital with abdominal distention and can't pass motion for 10 days ago. She also had intermittent colicky pain and billious vomiting. Previously, she had surgical correction for anorectal malformation with rectovestibular fistulae.

Physical examination revealed tachycardia and tachypnea with abdominal distention as well as metallic sound even though there was no sign of peritonitis. Anal position index was normal

and rectal vault collapse. Potassium level was low (2,6 Meq/L) and already corrected. Abdominal x-ray revealed multiple air-fluid level and gas only in the ileum level with dilatation all small bowel.

Exploratory laparotomy was prompted and there was acquired atresia (type II) in the ileum 70 cm from ileocaecal valve due to adhesive band that twisted the bowel to the umbilical area (**Figure 2A**). The adhesive band was released and proximal tapering and anastomosis end to end ileoileal handsewn was performed. She was discharged on operative day 7 with uneventful recovery.

### DISCUSSION

Acquired intestinal atresia was first described by Michaelis in 1971 in a 19 months old boy in whom ileal atresia developed after drainage of a large intraabdominal abscess of undetermined etiology.<sup>4,5</sup> Theories on the pathogenesis of intestinal atresia have been reviewed and concluded that postnatal progression to stenosis and atresia is caused by trauma to the intestine presumably from distension and ischemia. The most common type of congenital atresia was type II, but in acquired atresia is type III A.<sup>5,6</sup>

Acquired atresia of the bowel is known common occur in premature infants after recovery from necrotizing enterocolitis (NEC). Acquired intestinal atresia in non necrotizing enterocolitis affected patients is very rare.<sup>7</sup> We could find only eight case

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**Figure 1** A. Abdominal X-ray erect position show multiple air-fluid levels; B. Abdominal x-ray shows dilated small bowel and gas only in ileal level



**Figure 2** An Intestinal atresia type II 70 cm from ileocaecal valve (red arrow) and adhesive bad (yellow arrow); B. After atresia segment was resected (red arrow) similar to atresia type II

reports of acquired atresia of the small bowel in non-NEC patients in literature, but our patient is the older than others.<sup>3-10</sup>

All author report acquired atresia occur in the ileum because of adhesive small bowel obstruction and intussusception.<sup>3-10</sup> In their opinion, chronic entrapment of the ileal segment together with its mesentery by an adhesive band interrupting the blood supply resulted in acquired ileal atresia.<sup>5,6</sup> Ratan et al. Reported that acquired intestinal atresia is a rare but possible sequela of gut inflammation and/or intussusceptions.<sup>10</sup>

In our case, the atresia occurs in mid ileum due to adhesive small bowel obstruction. We think the obstruction already occurs not only for 10 days, but longer before the total obstruction occur. The atresia may be because chronic twisting of the mid ileum segment together with its mesentery by an adhesive band interrupting the blood supply. Ischemia and ongoing inflammation with further resorption of the devitalised segment were likely involved resulting in complete healing of the atretic ends.

## CONCLUSION

Intestinal atresia typically present in neonatal period with the classical symptoms of abdominal

distension and vomiting. Available reports imply that mechanical forces on the intestine (adhesive band, volvulus, and intussusception) dominate the pathogenesis of acquired intestinal atresia.

## CONFLICT OF INTEREST

There is no conflict of interest.

## FUNDING

None.

## AUTHOR CONTRIBUTION

The author was collected patient records, patient management, drafted the manuscript and reviewed the literature. Muntadar and Yusriadi were involved in patient management and review literature.

## REFERENCE

- Nichols PF, Reichstein A. Intestinal Atresia. In: Mattei P. *Fundamental of Pediatric Surgery*. Springer New York Dordrecht Heidelberg London; 2011. p. 359-364.
- Jason S. Frischer and Richard G. Azizkhan. Jejunoileal Atresia and Stenosis. In: Cora, AG, Adzick NS, Krummel TM, Laberge JM, Caldamone A, Shamberger R. *Pediatric Surgery Seventh Edition*. Saunders; 2012. p. 1059-1071.
- Osuoji R, Idika O, Odomeja E, Bankole A. Acquired ileal atresia complicating an ileocolic intussusception in a 4-month-old infant. *Journal of Pediatric Surgery*. 2011;46: E13-E14 <https://doi.org/10.1016/j.jpedsurg.2010.09.050>
- Michaelis L, Shaw A, Alrich M. Acquired intestinal atresia. *J Pediatr Surg*. 1971;6:666.
- Bing L, Wei-bing C, Shou-qing W, Ye-bo W. Acquired Ileal Atresia Induced by Adhesive Intestinal Obstruction. *Indian J Pediatric*. 2013;81(5):507-8 <https://doi.org/10.1007/s12098-013-1281-7>
- Houben CH, Lo AWI, Tsui SY, Chan KW. Under pressure: a contribution to the pathogenesis of acquired ileal atresia. *BMJ Case Rep*. 2013; 1-4. <https://doi.org/10.1136/bcr-2013-201505>
- Mandelia A, Agarwala S. Acquired Jejunal Atresia in a 2-Month-old Infant. *Journal of Clinical and Diagnostic Research*. 2015;9(1):PD01-PD02. <https://doi.org/10.7860/JCDR/2015/8979.5358>
- Puvabanditsin S, Garrow E, Samransamraujit R, et al. Postnatal Intussusception in a premature infant, causing jejunal atresia. *J Pediatr Surg*. 1996;31(5):711-12. [https://doi.org/10.1016/s0022-3468\(96\)90683-1](https://doi.org/10.1016/s0022-3468(96)90683-1).
- Elemen L, Tugay M, Erkus B, et al. Acquired ileal atresia because of adhesive small bowel obstruction. *J Pediatr Surg*. 2010;45:1383-85. <https://doi.org/10.1016/j.jpedsurg.2010.03.014>
- Ratan SK, Rattan KN, Mathur SK, Maheshwari J, Sehgal T. Acquired ileal atresia in infancy: report of two cases. *Pediatr Surg Int*. 2005;21:305-307. <https://doi.org/10.1007/s00383-005-1373-1>



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