

# Double Pouch Colon

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## ABSTRACT

Congenital pouch colon (CPC) is a rare type of anorectal malformation found mainly in North Indian states. A 2-day-old male neonate with type V CPC (i.e., double pouch colon) has been reported. This is 6th such case reported in the world literature.

**Keywords:** Anorectal malformation, Congenital pouch colon, Double pouch colon.

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## INTRODUCTION

Congenital pouch colon (CPC) is defined as a condition where a part or whole of the colon is replaced by a pouch-like dilatation, which usually has communication with the urogenital tract in the form of fistula.<sup>1</sup> Double pouch colon is a type of CPC when a colon is replaced by two pouches with a normal interposition colon segment.<sup>2</sup>

## CASE DESCRIPTION

A 2-day-old, 2.7-kilogram male full-term neonate, born out of a non-consanguineous marriage was referred to us with a complaint of absent anal opening since birth and abdominal distension and meconuria since day 1. On examination, the patient had a distended abdomen and absent anal opening with a flat perineum. The fantogram showed two large air-fluid levels in the abdomen (Fig. 1). Echocardiogram was suggestive of patent ductus arteriosus with severe pulmonary artery hypertension.

At laparotomy Saxena–Mathur classification, a type V pouch colon was seen with the intervening segment of only 2 centimeters. This dumb-bell-shaped pouch colon was ischemic, thinned out at places, and had blood supply only from marginal branches (Fig. 2). The poucho-vesical fistula was divided and closed, pouch excised, and terminal ileostomy was done (Fig. 3). The patient was discharged uneventfully on 8th postoperative day.



Fig. 1: X-ray showing two large-air-fluid levels

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We had planned a second-stage surgery after 3 months. However, the patient, unfortunately, succumbed to lower respiratory tract infection at 2 months of age.

## DISCUSSION

In 1912, Spriggs described a congenital-pouch-colon-like condition while he was working with a specimen from London Hospital Museum, where the left half of the large gut was absent.<sup>3</sup> CPC is now included in International Krickenbeck classification in rare variants category of anorectal malformations.<sup>4</sup> In 1984, Narsimharao et al. coined the term “pouch colon syndrome.”<sup>5</sup> Saxena–Mathur classification divides the CPC into five types:



Fig. 2: A thinned out double pouch colon



Fig. 3: Specimen with areas of perforations

Type I: Normal colon is absent, and ileum opens into a pouch colon.

Type II: Ileum opens into a normal cecum that opens into a pouch colon.

Type III: Normal ascending colon and transverse colon open into a pouch colon.

Type IV: Normal colon with a rectosigmoid pouch.

Type V: Double pouch colon with a normal interposition colon segment.<sup>2</sup>

In a large study at a center in North India done by Mathur et al., the CPC constituted 17.2% of all anorectal malformations and amongst all CPCs, type V variant is seen in 1.5%.<sup>2</sup> There are only 5 reported cases of CPC type-V in the world literature and this is the 6th case.<sup>6,7</sup>

The etiology of the double pouch is vascular insult due to the obliteration of the ileocolic branch of the superior mesenteric artery along with the obliteration of inferior mesenteric artery, leading to

the formation of the double pouch. However, the middle portion remains normal as a result of its supply from the middle colic branch of the superior mesenteric artery.

For type V CPC, the procedure described is excision of the distal pouch with coloplast of the proximal pouch under the cover of ileostomy. However, in our case, both the pouches were ischemic and had areas of impending perforation, hence excision and end ileostomy was done.

## CONCLUSION

In conclusion, we can say that the treatment needs to be individualized according to the peroperative findings. The outcome depends on the associated anomalies.

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