A 3.1 kg male child presented to our emergency department within 24 hours of delivery for imperforate anus, the baby cried soon after birth and passed clear urine. However, baby had not passed meconium since birth, for which he was referred to us. Perineal examination revealed the presence of meconium pearls and absent anal opening, suggestive of low ARM, for which anoplasty was done. On post operative day 2 child start developing abdominal distension. On physical examination, the child was found to be dyspneic, lethargic, and dehydrated. The abdomen was distended and tender. There was no erythema or edema of the anterior abdominal wall.

Discussion:
Spontaneous perforation of the colon is estimated to occur in 2% of neonates with ARM and the incidence rises to 9.5% when the diagnosis is delayed. Colonic perforations account for 15% of bowel perforation. However, delay in diagnosis is not uncommon, even in developed countries, like India; initiation of treatment is further delayed by social factors such as poverty, illiteracy, poor transport facilities, and scarcity of specialists. Hirschsprung's disease, enterocolitis, and instrumentation are commonly described etiological factors but anorectal malformations are very rare. A high index of suspicion in neonates with ARM presenting with sepsis and features of peritonitis such as a tense distended abdomen with parietal wall edema and erythema are occasionally suggestive of perforation. However, delay in diagnosis is not uncommon, even in developed countries, diagnostic delays of 3–43 days have been reported in as many as 21–32% of newborns. In developing countries, delay in diagnosis is even more common.

Case History:
A 3.1 kg male child presented to our emergency department within 24 hours of delivery for imperforate anus, the baby cried soon after birth and passed clear urine. However, baby had not passed meconium since birth, for which he was referred to us. Perineal examination revealed the presence of meconium pearls and absent anal opening, suggestive of low ARM, for which anoplasty was done. On post operative day 2 child start developing abdominal distension. On physical examination, the child was found to be dyspneic, lethargic, and dehydrated. The abdomen was distended and tender. There was no erythema or edema of the anterior abdominal wall.

Spontaneous perforation of the colon is a rare complication in neonates with anorectal malformations (ARMs). There are no detailed studies concerning this complication. Anorectal malformations include a wide spectrum of defects in the development of the lowest portion of the intestinal and urogenital tracts. Many children with these malformations are said to have an imperforate anus because they have no opening where the anus should be. Although the term may accurately describe a child's outward appearance, it is often believed the true complexity of the malformation beneath. Here we discuss a case of new born baby with imperforate anus associated with sigmoid colon perforation.

**ABSTRACT**
Spontaneous perforation of the colon is a rare complication in neonates with anorectal malformations (ARMs). There are no detailed studies concerning this complication. Anorectal malformations include a wide spectrum of defects in the development of the lowest portion of the intestinal and urogenital tracts. Many children with these malformations are said to have an imperforate anus because they have no opening where the anus should be. Although the term may accurately describe a child's outward appearance, it is often believed the true complexity of the malformation beneath. Here we discuss a case of new born baby with imperforate anus associated with sigmoid colon perforation.

**KEYWORDS**: neonate age group, sigmoid colon perforation, imperforate anus.
increases neonatal mortality of ARM from 3% to 23%. Perforation of the colon in the newborn is a serious and rare complication. Perforations secondary to anorectal malformations are very rare as these malformations are generally diagnosed early and treated before the perforation can occur.

The relative paucity of the literature on spontaneous perforation of the colon in ARM is due to the rarity of its occurrence and inadequate reporting. The exact incidence of bowel perforation in ARM is not known. The median age at the onset or diagnosis of perforation in ARM cases was 48 hours. Bowel rupture frequently occurs in ARM without fistula; however, anomalies with fistula are not spared. Occlusion of a tiny fistula by inspissated meconium may have caused perforation due to raised intraluminal pressure in cases of fistulous ARM (usually decompressed by fistula). Nearly 85% of perforations occurred in boys and the rarity of perforation in females is probably caused by the high frequency of low ARM with a wide rectofoorchette fistula.

The etiopathogenesis of gastrointestinal perforation neonates with ARM may be explained by a combination of factors. The downstream occlusion results in proximal intestinal dilatation and increase in intraluminal pressure resulting in tension gangrene. It may undergo perforation even when the closed loop obstruction has been relieved, precipitating an ischemia–reperfusion injury which should emphasize the vital role of close clinical observation of such cases in the postoperative period. The cecum is the most common site. A high index of suspicion in neonates with ARM presenting with sepsis and features of peritonitis should be noted. Although features of pneumoperitoneum on abdominal X-ray have been reported in 60–70% of neonates with gastrointestinal perforation, its presence is confirmatory. The management of gastrointestinal perforation in neonates with ARM aims at aggressive resuscitation and early surgical intervention.

Colorectal perforation is associated with considerable morbidity and mortality in neonates with ARM. Radiographs rather than clinical examination should be relied on for diagnosis of bowel perforation in ARM. Treatment options are chosen according to the subtype of perforation. Because most perforations occurred more than 24 hours after birth, early referral and surgical decompression of the colon may avoid this complication. Based on an extensive literature review, Raveenthiran has identified two distinct patterns of perforation: Type 1 (88%) occurred before surgical decompression of the obstructed colon, whereas Type 2 (12%) occurred postoperatively.

The overall mortality of perforated ARM is 19%. Sepsis and disseminated intravascular coagulation were frequent causes of death. Better understanding of the pathophysiology of perforation in ARM and early surgical decompression of the obstructed colon can be expected to reduce mortality in future. Clearly, the cornerstone to timely diagnosis of an ARM continues to be a comprehensive neonatal examination performed by a pediatrician or a pediatric trainee with sufficient experience.

References: