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ANORECTAL MALFORMATIONS IN NEONATES – A CLINICAL STUDY

Surgery

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ABSTRACT

Aim: Anorectal malformations (ARMs) are among the more frequent congenital anomalies in neonates. This study was undertaken to study the various types of anorectal malformations, sex distribution, associated anomalies, mortality and morbidity. **Materials and Methods:** This is a retrospective study of neonates with anorectal anomalies admitted and treated from Jan 2014 to Dec 2016 (2 years). The data pertaining to the age, sex, type of anomaly, investigations, associated anomalies, management, mortality and morbity was taken and analyzed. Results: A total of 124 patients with ARM were treated of which 82 were males and 42 were females. In males 84.1% had high/Intermediate anomalies and 15.9% had low anomalies whereas in female neonates 16.7% only had high/Intermediate anomalies and 83.4% had low anomalies. Associated defects were found in 46.8% of the patients. Associated defects seen were urogenital, cardiovascular, vertebral, gastrointestinal and limb defects. 9 patients had two or more defects associated with ARM. There were 8 deaths, and complications were seen in 18 patients. **Conclusions:** Anorectal malformations are very common and seen more commonly in males. In males, high anomalies are more common and in females low anomalies are more common. Nearly half of the patients have associated defects and the presence of associated defects is associated with increase in the mortality and morbidity. Complications were more common in patients with high Anorectal malformations.

KEYWORDS

Anorectal malformations, associated defects

INTRODUCTION:

Anorectal malformations (ARM) are one of the most common congenital defects. The reported incidence is between 1 per 2000-5000 live births1,2. ARM presents with a wide spectrum of defects, ranging from simple low anomalies to very complex cloacal anomalies3,4,5,6 . Associated anomalies are present in 40-70% of these patients4,5,6,7,8 .The management of ARM in the neonatal period is crucial and a decision regarding staged or single staged procedure is to be decided. Also the associated anomalies need to be evaluated and proper treatment is to be planned (immediate or later). This study analyses the various types of anorectal malformations, sex distribution, associated anomalies, mortality and morbidity.

Materials and Methods:

This is a retrospective study of neonates admitted and treated for anorectal malformations between January 2014 and December 2016. The study included only the neonates admitted and treated for anorectal anomalies. The anorectal malformation cases reporting for definitive surgery and for colostomy closure were excluded from the study. The data pertaining to the age, sex, type of anomaly, investigations, associated anomalies, treatment details, mortality and morbidity was taken and analyzed. The anorectal anomalies were classified as per the Wingspread classification as high/intermediate and low anomalies. Clinical examination and investigations were done to classify the ARM and identify any associated anomalies. Investigations such as Invertogram, Infantogram, X-Ray Spine/MRI, USG abdomen, 2D Echo, MCUG etc were done.

All male babies presenting with a low type of defect underwent a Y-V anoplasty in the neonatal period. Rest of the male babies with high or intermediate types of defects underwent a high sigmoid colostomy and in two patients with intermediate defect primary PSARP was done. In female babies with low anomalies and narrow anal lumen a cutback anoplasty was done and with high/intermediate anomalies high sigmoid colostomy was performed. Postoperatively, all patients received broad-spectrum antibiotics. Oral feeds were started after 48hrs and gradually full feed was achieved. Associated defects were managed as per the standard guidelines. Two patients had ARM with Esophageal Atresia and underwent surgery for both the anomalies. Other associated anomalies were dealt with as per standard guidelines. There were 8 deaths due to sepsis and pneumonia and these neonates presented late with gross abdominal distension and sepsis. Most common complications noted were wound infection, colostomy prolapse and paracolostomy herniation of bowel loops. Neonates were discharged once they tolerated full oral feeds.

RESULTS:

Out of the 124 patients with ARM treated in neonatal period, 82pts (66.1%) were males and 42pts (33.9%) were females with a ratio of nearly 2:1.(Figure1).

In males, high/intermediate anomalies were seen in 69 pts (84.1%) and 13pts (15.9%) had low anomalies, whereas in female neonates only 7 pts (16.7%) had high/intermediate anomalies and 35 pts (83.3%) had low anomalies.(Figure2)

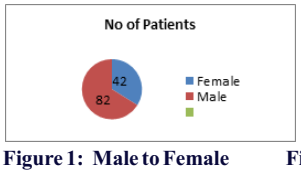

Figure 1: Male to Female incidence

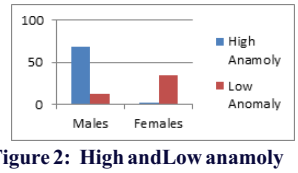

Figure 2: High andLow anamoly incidence

Associated defects were seen in 58pts (46.8%) of which 39 were males and 19 were females. Associated defects seen were cardiovascular (36%), urogenital (34%), vertebral (21%) gastrointestinal (12%) and limb defects (9%). 55 neonates (94.8%) with associated defects had high anorectal anomalies. Associated defects seen were Urogenital (VUR, renal agenesis, ectopic kidney, hypospadias, bifid scrotum) Cardiovascular (ventricular septal defects, patent ductus arteriosus, atrial septal defects) Vertebral (sacral agenesis, spina bifida, hemivertebra) Gastrointestinal (esophageal atresia and tracheoe sophageal fistula) and Limb defects (talipes equinovarus, syndactyly, supenumary digits). Facial clefts and tongue tie were other associated defects noted. Nine patients had two or more defects associated with ARM.

In all the neonates with high/intermediate anomaly, high sigmoid colostomy was done except in two patients with intermediate anomaly where posterior saggital anorectoplasty was done as the primary procedure. In neonates with low anomaly anoplasty was done. Overall mortality rate was 6.5% (8pts), most of these neonates presented late with sepsis and three-fourths of the patients (6pts) had associated anomalies (cardiovascular, gastrointestinal, urological). 18 neonates had postoperative complications (wound infection, colostomy prolapse, postoperative fever, wound dehiscence/paracolostomy herniation of bowels, and anal stenosis).61.1% (11pts) of the patients having a complication had an associated defect.

DISCUSSION:

Anorectal malformations occur quite commonly[1,2]. Male to female ratio is around [2:1][2,3].Many systems of classification are suggested but the

terms high and low have been broadly recognized and applied worldwide. In this study in males high anomalies were more common and in females low anomalies were common [2,3,4]. We found that 46.8% of our patients had one or more associated malformation, whereas reported incidence varies from 36-67%7,8,9,10. The highest incidence of associated defects was seen in high lesions. Associated defects seen were urogenital (42%), cardiovascular (32%), vertebral (21%) gastrointestinal (12%) and limb defects (9%).

Eight neonates (6.5%) died due to sepsis and pneumonia, most of these neonates presented late with sepsis and three-fourths of the patients (6pts) had associated anomalies (cardiovascular, gastrointestinal, urological). 18 neonates had postoperative complications (wound infection, colostomy prolapse, postoperative fever, wound dehiscence/paracolostomy herniation of bowels, and anal stenosis)3,4,9,10.61.1% (11pts) of the patients having a complication had an additional defect. The presence of associated anomalies had an increased mortality and morbidity.

Conclusions: Anorectal malformations are very common and seen more commonly in males. In males, high anomalies are more common and in females low anomalies are more common. Evaluation for associated defects must be done as nearly half of the patients have associated defects and their presence has a significance in the mortality and morbidity. Complications were more common in patients with high Anorectal malformations. With better understanding of the anatomy, early diagnosis of ARM and its associated defects and increasing experience in management, better results are now being obtained.

REFERENCES:

1. Gupta DK, Charles AR, Srinavas M. Pediatric Surgery in India - A specialty come of age. Pediatr Surg Int 2002;18:649-52.
2. Saaull DB, Harrison EA. Classification of Anorectal malformations - Initial approach, diagnostic tests and colostomy. Semin Pediatr Surg 1997;16:187-95.
3. Pathak IC, Saifullah S. Congenital Anorectal malformations: An experience based on 50 cases. Indian J Pediatr 1969;36:370-9.
4. Cook RC. Anorectal malformations, In : Neonatal Surgery. Lister J, Irving IM (editors). Butterworth Heinmann: 1991. p. 547-70.
5. Pena A: Anorectal anomalies, In : Puri P (editor): Newborn Surgery. Butterworth Heinmann: Oxford England; 1996. p. 379-94.
6. Pena A. Anorectal Malformations. Semin Pediatr Surg 1995;4:35-47.
7. Metts JC 3rd, Kotkin L, Kasper S, Shyr Y, Adams MC, Brock JW 3rd. Genital malformations and coexistent urinary tract and spinal anomalies in patients with imperforate anus. J Urol 1997;158:1298-300.
8. Narasimharao KL, Prasad GR, Mukhopadhyay B etal. Vesicouretric reflux in neonatal with anorectal anomalies. Br J Urol 1983;55:268-70.
9. Wakhlu AK. Management of Congenital anorectal Anomalies. Indian Pediatr 1995;32:1239-41.
10. Bhargava P, Mahajan J K, Kumar A. Anorectal malformations in children. J Indian Assoc PediatrSurg 2006;11: 136-9.