Etiological Spectrum of Acute Intestinal Obstruction

Gastrointestinal obstruction in children may be due to a variety of conditions. 150 cases of acute intestinal obstructions seen over a period of 180 months were reviewed. Intestinal atresia was the comonest cause (34, 22.4%).

Keywords: *Intestinal obstruction, Neonates, India.*

Gastrointestinal obstruction in the pediatric age group may be due to a variety of congenital and acquired conditions. Over a period of 18 months; 150 cases of acute intestinal obstructions accounted for 40% of the abdominal emergencies at our center. Children with esophageal atresia, anorectal anomalies, Hirschsprung's disease, adhesive intestinal obstruction not requiring surgery, and peritonitis without mechanical obstruction were excluded.

Seventy eight percent (118) were males and 32(22%) were females (M: F: 3.6:1). The children aged between 1-12 months constituted 42% (*n*=63) of the patients and 35% (*n*=53) were neonates.

Etiological distribution of the cases is shown in ***Fig.*1**. Intestinal atresias were the commonest and accounted for 22.4% (*n*=34) of the cases. Malrotation (*n*=11), congenital band obstruction (*n*=3), meconium pseudocyst (*n*=2), Obstructed hernia (*n*=1), duplication cyst jejunum (*n*=1) and infantile hypertrophic pyloric stenosis (*n*=1) were other causes of obstruction in neonates. Out of 23 (15%) patients of intussusception, 18(76%) were between 6 month to 1 year of age and only 59%(16) of the patients had bleeding per rectum. Pathological lead point (PLP) was seen in 4 (19%) patients of ileocolic intussusception. Of the 20 patients of malrotation, 11 (55%) were less than one month old, 5(25%) between 1 month and 1year and 4 (20%) were 1 to 6 years.

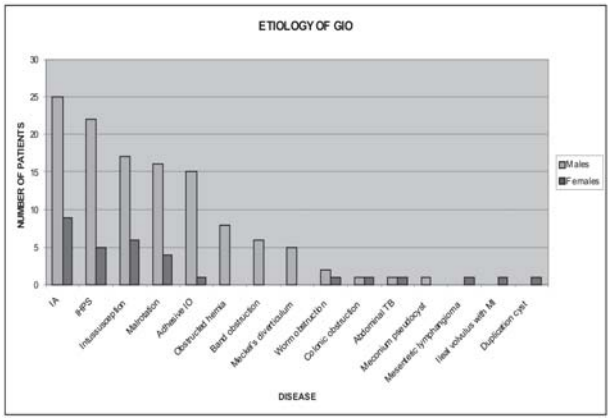

Fig. 1 *Distribution of etiology of gastrointestinal obstruction in children.*

Many studies in Western and South African countries show similar etiological prevalence as in our institute(1-3). However, there were several differences observed in the presentations in different groups of GIO as compared to the classical descriptions(1,4,5). Intussusception occurred below 1year of age in 76%(18) of our patients and PLP was present in 19% of them, unlike the previous reports in the literature. Bleeding per rectum was seen in 59% of the patients only, compared to a higher incidence reported by others. Fifty five percent of our patients presented with malrotation in the neonatal period, in contrast to 75% neonatal presentations described in the literature. The intestinal obstruction in malrotation may be waxing and waning type and requires a high index of suspicion so as not to miss the diagnosis.

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Time Required to Document Temperature by Electronic Skin Thermometer in a Healthy Neonate

We studied the actual time taken to document temperature in a stable neonate by an electronic digital skin thermometer with automatic time beeper. We studied 100 neonates after initial stabilization. The mean time required for documenting the temperature by a electronic thermometer in axilla was 56.34±1.54 secs for term neonates (>2500g) and 54.87±1.23 secs for low birth weight (<2500g). The skin temperature measured simultaneously by the ordinary mercury thermometer kept for traditional 3 minutes supported the electronic measurement (*P*< 0.01).

Keywords: *Electronic thermometer, Neonatal temperature, Skin thermometer.*

Rectal or axillary temperature has been considered the gold standard for measuring core temperature, although there are obvious limitations to this procedure. The usual recommendation is to keep the low reading mercury thermometer (25°C/77°F) for 3-5 minutes in axilla or groin(1,2). The time required to obtain a stabilized reading as documented in western literature using a digital thermometer is about 30-45 seconds at either side(3). But there is no study published in our setup regarding this.

In this hospital based, prospective, cohort study, all neonates of any gestation or mode of delivery after initial stabilization (preferably within 1 hour of birth) without congenital anomalies or any sickness or distress were examined in Brazelton stage between I to III. Electronic Thermometer used was Dr.Morgan Digital model MT-219. Vega Technologies Inc. Taipei, Taiwan. An ordinary mercury skin thermometer (Hick's) was also used.

Duration of study was from October 2007 to August 2008. Total 100 neonates were examined and data analysed. Both the thermometers were simultaneously used-one in either axilla of the neonate. The stop watch was started immediately after placing them. The Hick's thermometer was kept for 3 minutes and temperature was documented. The electronic thermometer was removed and stop watch locked as soon as the steady beep was heard and temperature and time needed were both documented. The environmental temperature was also documented.

The mean time required for documenting a temperature by a electronic thermometer in axilla was 56.34±1.54 for term neonates (>2500g) and 54.87±1.23 secs for low birth weight (<2500g). The time required for documenting temperature did not change significantly (*P*<0.01) with environmental temperature. The skin temperature measured by the ordinary mercury thermometer did not differ significantly from that noted by keeping the electronic one (*P*< 0.01).

The present study is limited due to small study population. And that may be the cause of higher mean time in our study (56.34±1.54 s) than reported in western literature (30-45 s). But using an electronic thermometer (Rs 200/-) instead of an ordinary one (Rs 60/-) will save valuable time (about >2min) for a peripheral health worker who has to manage all resuscitation procedures single-handedly.

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