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Neonatology

A CASE REPORT ON CONGENITAL HYPERTROPHIC PYLORIC STENOSIS IN A 30 DAYS OLD MALE BABY

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ABSTRACT Infantile hypertrophic pyloric stenosis (IHPS) is the most common surgical cause of nonbilious, projectile vomiting in children. Its incidence is estimated to be 2–5/1000 live births and has been noted to be quite rare in African-Americans, Asians, and Indians. It is more common in infants under 6 months of age and is quite rare in older infants. While IHPS is invariably intrinsic in nature, extrinsic pyloric stenosis is very rare. Children who present with nonbilious, projectile vomiting after the age of 6 months should, therefore, be thoroughly investigated for causes other than IHPS. This is a case report of a One-month-old child who had a band of tissue constricting the pylorus which mimicked IHPS.

KEYWORDS : pyloric stenosis, nonbilious, projectile vomitig

Background:
Hypertrophic pyloric stenosis (HPS) is a condition of hypertrophy of the pyloric muscle causing narrowing of the pyloric sphincter leading to near complete obstruction of the gastric outlet from the stomach to the duodenum1 HPS is the most common cause of gastric outlet obstruction in children. It is the most common surgical cause of nonbilious, projectile vomiting in children. Incidence is about one to three per 1000 live births. The male to female ratio is 4:12. It has been suggested, though not proven, that HPS affects the first-born male more often. It has been noted to be quite rare in African-Americans, Asians, and Indians. It is more common in infants under 6 months of age and is quite rare in older infants. While IHPS is invariably intrinsic in nature, extrinsic pyloric stenosis is very rare. Children who present with nonbilious, projectile vomiting after the age of 6 months should, therefore, be thoroughly investigated for causes other than IHPS. Left untreated HPS can lead to forceful vomiting, dehydration and weight loss. There is evidence of inheritance since 19 percent of males and seven percent of females born to women with a history of HPS will also have HPS.

The incidence is much lower in the offspring of men with HPS. The use of oral erythromycin in infants under 2 weeks of age has been associated with HPS as has the use of macrolides by mothers late in pregnancy and while breastfeeding. Gastric hyperacidity, hyperga stinemia and increased gastric vascularity in the infant may also be factors in developing HPS. HPS usually occurs in isolation, however a small percentage of infants with HPS will also be diagnosed with intestinal malrotation, obstructive uropathy or oesophageal atresia.

Case Report:
A 30 days old male baby with the presenting complains of Poor weight gain for a month, recurrent vomiting and regurgitation of feed for 7 days, Cold and cough for 4 days, poor feeding for 1 day and Intermittent cry with lethargic for 1 day.

Birth History: He was born at term by uncomplicated vaginal delivery with a birth weight of 2500 grams, with APGAR score of 5/10. Anthropometric measurements at the time of birth include, Length: 50 cm, HC: 36 cm, CC: 34 cm, Pedigree: NCM.

Antenatal History: Mother is primi with regular antenatal care. During the ANC TT vaccine two doses taken. The routine check-up with laboratory reports revealed Iron Deficiency Anemia, Negative VDRL, HBsAg, HCV, HIV_I, HIV_{II}. Mother was not suffering from Gestational Diabetes, Hypertension, Seizures. Her Ultrasonography of the abdomen revealed no congenital anomalies. It is not high risk pregnancy.

Immunization History: Up-to-date**, Developmental History:** NAD**.**
On General Physical Examination: **GC:** conscious, **HR:** 160 bpm, **RR:** 53 respirations per minute, **SPO_2:** 92%, **CFT** < 3 Sec, **Temp:** 96.0^{O} F, **PP:** +, **CP:** ++, P^{O}, I^{O}, C^{+}, E^{O}, L^{O}, some dehydration present.
RS: SCR, ICR, air entry equal on both sides, no crept or wheezes.
CVS: S_1, S_2 audible.
CNS: conscious, tone-poor, reflexes-poor, pupil normal in size-SRTL.
P/A: Abdomen soft, no HSM, bowel sound present.

A panel of investigations were done which include routine CBC, X-ray chest, USG abdomen and ABG analysis. CBC revealed lymphocytosis, all other cell counts were within the normal limits.

Ultrasound of Whole Abdomen revealed Pyloric Stenosis: The pylorus measures 16.9 mm in length and 11.00 mm of width, the pyloric muscle measures 3.4 mm findings are in favour of pyloric stenosis. Arterial Blood Gas analysis (ABG) showed "Metabolic Alkalosis with Electrolyte Disturbances" with pH 7.558, pCO2 24.2, pO2 61.4, sodium 130 mmol/L, potassium 6.3 mmol/L, ionised calcium 0.62 mmol/L, glucose 73 mg/dL, lactate 4.68 mmol/L, base excess 1.4 mmol/L. Complete blood count with haemoglobin were WNL except for mild lymphocytosis.

Hospital course: Patient was admitted with above mentioned complaints and started on IV fluid, inj. meropenam, inj. ondem inj. rantac and inj. amikacin. Basic required blood sample sent. Possibility of **congenital hypertrophic pyloric stenosis(CHPS) / late onset sepsis** was kept. Patient was kept NPO. ABG and USG abdomen s/o CHPS. Patient improving gradually but non-bilious vomiting persists although maintain oxygen saturation on room air and not tolerate feed. Dangers signs explained and planned for pediatric surgical management**.**

Treatment given: IVF, Inj. Meropenam, Inj. Ondem, Inj. Rantac, Inj. Amikacin. The child was referred to higher centres for further surgical intervention.

DISCUSSION AND CONCLUSION:
IHPS is the most common cause of nonbilious projectile vomiting in infants although a similar presentation has been reported with gastroenteritis, gastroesophageal reflux disease, hiatal hernia, adrenal insufficiency, and inborn errors of metabolism. In IHPS, there is hyperplasia of the smooth muscle fibres in the antropyloric portion of the stomach resulting in thickening and narrowing of the pyloric canal, with subsequent obstruction to gastric emptying. This condition is typically diagnosed between the 3rd and 8th weeks of life and the majority of cases occur in children under 6 months of age. Of note, males are more affected than females, and there may be preponderance toward firstborn males. The diagnosis of pyloric stenosis is frequently delayed. Consider pyloric stenosis as a cause of emesis in infants. Remember that the presence of gastroesophageal reflux does not rule out pyloric stenosis. And keep in mind that even though hypochloremic metabolic alkalosis strongly suggests pyloric stenosis as the underlying problem, normal electrolyte levels do not exclude the diagnosis.

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