Isolated Congenital Microgastria Managed By Hunt-Lawrence Pouch Gastric Augmentation: A Case Report

Rathore Siddharth S., Bhat Mahakshit

1Assistant Professor & HOD, Department of Pediatric Surgery, Mahatma Gandhi Medical College and Hospital, Sitapura, Jaipur
2Post Graduate Resident, Department of General Surgery, Mahatma Gandhi Medical College and Hospital, Sitapura, Jaipur

*Corresponding author
Dr. Siddharth Singh Rathore
Email: dr.ss Rathore@yahoo.com

Abstract: Congenital microgastria is a rare congenital anomaly frequently associated with other developmental defects and an isolated presentation is extremely rare. The patient presented to us at the age of 6 months with complaints of recurrent vomiting and failure to thrive. An upper gastrointestinal contrast study was done which revealed a small stomach with a dilated esophagus. A Hunt-Lawrence pouch gastric augmentation was done at 18 months of age and the patient tolerated oral feeds well, post-operatively. Isolated congenital microgastria is an extremely rare developmental anomaly and only one case has been reported till date in India. Among the various treatment options the Hunt-Lawrence pouch gastric augmentation is the treatment of choice.

Keywords: Congenital microgastria, Hunt-Lawrence pouch gastric augmentation.

INTRODUCTION:
Congenital microgastria is an extremely rare foregut anomaly characterised by hypoplastic stomach with megaesophagus[1]. The deformity is frequently associated with other defects and presents rarely as an isolated anomaly. The patient usually presents with gastroesophageal reflux, vomiting and failure to thrive, often complicated by recurrent aspiration pneumonia[2]. The treatment options include frequent small feeds through a Ryle’s tube, gastric augmentation with a Hunt-Lawrence pouch (jejunal pouch)[3] and a total gastric dissociation followed by Roux-en-Y esophagojejunostomy[4]. We present a case of isolated congenital microgastria in a 6 month old child treated by a Hunt-Lawrence pouch gastric augmentation.

CASE REPORT:
The patient was a 6 months old female child who presented to us with complaints of recurrent non-bilious, non-projectile vomiting and failure to thrive. The child was full term, normal vaginal delivery born to a gravida 2 para 2 female 3 years after the first delivery. At the time of presentation the child weighed 3.5 kilograms and was below the third percentile according to the WHO weight for age chart.

The child was unable to tolerate oral feeding and an Ultrasound was done to rule out hypertrophic pylorus. Upper GI endoscopy was performed which revealed a dilated Esophagus, a stomach with reduced capacity and normal mucosa. An upper GI contrast study was then done which confirmed the findings of the endoscopy (Fig. 1). Esophageal manomatory was done. A diagnosis of congenital microgastria was established and the patient was taken on nasogastric feeding. However, the patient’s intake was inadequate and a feeding jejunostomy was undertaken and the child was discharged with jejunostomy feeding to improve nutritional status and associated oral feeding as tolerated to improve the capacity.

The patient was under continuous follow up, at the age of 18 months patient was unable to tolerate oral feeds and was exclusively on jejunostomy feeding. The weight of the child was 6 kgs (well below third percentile on the WHO weight for age chart). Subsequently, the child was taken up for a laparotomy. Per-operatively, a small stomach measuring 2cm x 4cm (Fig. 2) was discovered with a dilated abdominal esophagus. A gastric augmentation procedure was done with a Hunt-Lawerence jejunal pouch (Fig. 3) with revision of the feeding jejunostomy. The 15cm jejunal pouch was constructed using a Roux loop of the jejunum brought up through the transverse mesocolon, using linear stapler followed by a side to side double layered anastomosis of the pouch with the greater curvature of the hypoplastic stomach. The post-operative period was uneventful and the patient was started on jejunostomy feeding on the third post-operative day. The Ryle’s tube was removed on the fifth post-operative day. An upper GI contrast study was done which showed an improved gastric capacity with visualization of the jejunal pouch (Fig. 5) and free drainage of the contrast into the distal bowel. Clear
liquids were started per orally on the sixth post-operative day and the child tolerated oral feeding well without any episode of vomiting. The patient was discharged on the eleventh post-operative day on combined oral (liquid diet at 30mL 2hourly) and jejunostomy feeding.

On followup the patient tolerated oral and jejunostomy feeding well and gained 700 grams in 15 days. The Jejunostomy tube feeding was continued and the oral liquid diet was progressively increased. At 2 months follow up the patient was accepting 70 ml liquid diet per oral 2 hourly and had gained 2.3 kg weight.

DISCUSSION:
Congenital microgastria is an extremely rare anomaly with a reported incidence of only 59 cases in literature before 2007[3]. The first case of microgastria was reported in 1842[5]. The pathology lies in the arrest of foregut development which results in a small, tubular or saccular stomach with gastroesophageal reflux and a resultant dilated oesophagus[1]. Developmental anomalies such as intestinal malrotation, duodenal atresia, imperforate anus, asplenia, limb defects, spinal abnormalities, cardiac defects, micrognathia are frequently associated [6, 7]. Isolated congenital microgastria is rare even among the reported cases and to the best of our knowledge only one case of isolated congenital microgastria has been reported in India[8] before the present case.

The patients usually present in early infancy with complaints of recurrent non-bilious, non-projectile vomiting and failure to thrive [3, 5-8]. Our patient similarly presented to us at the age of 6 months with complaints of recurrent non-bilious vomiting and failure to thrive. An upper GI contrast study was undertaken.
which revealed a small stomach and a dilated oesophagus as seen in literature [9]. The various treatment options range from conservative management to a total gastric dissociation with an esophagojejunostomy. However, most authors agree that a gastric augmentation using a Hunt-Lawrence jejunal pouch has the best results alleviating the symptoms of reflux [3, 10]. This is due to the augmentation of the stomach capacity as opposed to an alternative drainage of the stomach as seen with a Roux-en-Y gastrojejunostomy without the creation of a pouch.

REFERENCES: