

## Oesophageal atresia: Gastrostomy tube care, using alternatives can lead to complications too!

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### Introduction

Many types of complications of gastrostomy tube have been documented, including tube obstruction and dislodgement, malpositioning of replaced tubes, stomal leak, and tube migration and prolapse with or without gastric outlet obstruction and intussusception<sup>1-3</sup>. These complications increase especially when Foley catheter is being used as gastrostomy tube. When in cases such as long gap oesophageal atresia, neonates are discharged with the gastrostomy tube, the caregivers feel a lack of knowledge regarding the care of their child with gastrostomy tube<sup>4</sup>. Some of the researchers have mentioned that a well-planned teaching protocol for caregivers is required to reduce various morbidities in children with gastrostomy tube feeding<sup>5-7</sup>.

### Case report.

A 1750g male baby was born at 36 weeks of gestation to a primigravida mother. Antenatal period was uneventful except for the development of progressive polyhydramnios beyond 34 weeks of gestation. At birth, baby was diagnosed as having a long gap oesophageal atresia. Screening for associated cardiac, renal and cerebral anomalies was negative. Baby underwent feeding gastrostomy on day 2 of life and Foley catheter was placed as the feeding gastrostomy tube. Trophic feed was started which was escalated gradually. On day 11 of life, cervical oesophagostomy was done. On day 21 the baby was discharged, while being still fed with gastrostomy tube. On day 24 of life,

the baby was readmitted to the neonatal intensive care unit with progressively increasing abdominal distension, apnoeic episodes and poor peripheral pulses. He was put on mechanical ventilation on synchronised intermittent mandatory ventilation plus pressure support ventilation and vasopressors were started. X-ray showed huge gastric dilation with some evidence of generalized bowel dilation raising suspicion of gastric outlet obstruction (Figure 1).



Figure 1: X-ray of abdomen

The balloon of Foley catheter (used as gastrostomy tube) when aspirated, showed 15 ml milk (Figure 2) instead of 3 ml of normal saline (NS). Foley catheter balloon is filled with NS as it is helpful for tube fixation and keeping gastric-stoma patent.



Figure 2: Milk aspirated from Foley catheter

After deflation of balloon (Figure 3) baby started improving and vasopressors were gradually tapered and withdrawn.

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**Figure 3:** After deflation of balloon

The baby was extubated after 3 days of ventilation. Baby was discharged after 7 days of hospitalization on ensuring reinforcement of training of parents for gastrostomy tube care. At the time of writing this article, baby is under follow up, on feeding with gastrostomy tube, awaiting definitive repair and thriving well.

### Discussion

Gastrostomy tube insertion is a part of the surgical management of oesophageal atresia. Cervical oesophagostomy and gastrostomy is performed in neonates with large gap in proximal and distal parts of oesophagus or when it is not possible to perform primary repair due to several reasons. Feeding is continued through gastrostomy tube until definitive repair. Neonates are sent home with gastrostomy tube and the caregivers are supposed to give feeding at home through the tube. Prior to discharge it is the nurse's responsibility to ensure that the parents can provide safe, competent care to their child with oesophagostomy and gastrostomy tube feeding<sup>8</sup>.

Complications of gastrostomy tube (1–14%) include those related to surgical procedures, like wound infection, intra-abdominal leak and pneumoperitoneum (35%) and the problems related to gastrostomy creation, e.g. peristomal dermatitis, bleeding, granuloma and gastro-oesophageal reflux. Minor complications like tube migration and secondary gastrointestinal obstruction or tube blockage can be prevented by good nursing care including, repeated skin length measuring, checking balloon function and tube irrigation<sup>9-13</sup>.

These complications increase when a small size standard gastrostomy tube is not available for neonates and Foley's catheter is being used instead since it has 2 channels and caregivers need to be trained appropriately about the use of each channel. In the present case due to lack of proper counselling of the care providers regarding the feeding through the gastrostomy tube, the neonate was being fed through the port which was meant for balloon inflation. As such a complication has never been reported in the literature with use of Foley catheter as a gastrostomy tube, we want to highlight the importance of proper counselling to the care givers, so that such complications can be prevented. Sukrawal et al<sup>8</sup> conducted an operational study with the objective of developing the skills of caregivers in providing home care to neonates with gastrostomy tube feeding. They emphasized on the development of a separate multidisciplinary clinic for children with gastrostomy tube to deal with the problems faced by these children and their caregivers. There should be a specialist nurse to develop knowledge and skills in caregivers of children with gastrostomy tube<sup>8</sup>.

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