EUS-guided, LAMS-assisted gastro-jejunostomy in a boy under jejunal feeding for severe neurological impairment

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Common Gastrointestinal Problems in Children with Neurological Impairments (NI): Evaluation, Treatment and Monitoring

Recommendations for Nutritional Management of Children with Neurological Impairment (NI)

Dietetic Management of Children with Neurological Impairments (NI)

Jejunal Feeding

Jejunal feeding is recommended in cases of aspiration due to GORD, refractory vomiting, retching and bloating in children with NI.

A jejunal tube needs to be positioned distal to the Treitz ligament to prevent retrograde filling of a dysfuctioning stomach. Jejunal access can be provided by a nasojejunal tube, jejunal tube introduced through a gastrostomy or surgical transcutaneous jejunostomy.

The combination of gastric decompression via PEG and simultaneous jejunal nutrition has been shown to provide clinical benefit in patients with NI. Jejunal tubes introduced through the gastrostomy often migrate back to the stomach and the average functional duration in children is 39 days.
Medical History

- Male, 17 years old
- **Dystonic syndrome** as a result of neonatal kernicterus
  - spastic-dystonic tetraparesis
  - severe cognitive impairment
  - bilateral profound deafness
  - scoliosis and osteopenia
  - slow gastric emptying
  - gastroesophageal reflux

- Age 5 years: **baclofen pump implantation**
- Age 11 years: **percutaneous endoscopic gastrostomy**
- Age 11 years: **post-pyloric nutrition**
- Age 15 years: **bilateral pallidotomy**
- In the last few months: **repeated displacement of the gastro-jejunal tube**
Current problems

- Gastric feeding intolerance
- Gastro-jejunal tube recurrent displacement
- Total parenteral nutrition
- Surgical gastro-jejunostomy or direct jejunostomy: high morbidity

Endoscopic procedure

Endoscopic ultrasound-guided gastrojejunostomy with lumen apposing metal stent (LAMS)
Target bowel loop identification
LAMS placement
Final position
Results

• Procedure duration: 50 minutes
• No complications
• Gastric bolus feeding → vomiting
• Gastric continuous feeding (300ml/day) + gastric decompression → well tolerated
• Partial parenteral nutrition still ongoing

• Future program
  • Nutritional status monitoring
  • Parenteral nutrition IV access removal
  • Stent removal and placement of a gastro-jejunal tube through the gastrojejunostomy (minor risk of displacement) for higher volumes continuous feeding
Conclusion

• EUS-guided LAMS assisted gastro-jejunostomy for enteral feeding can reduce the risk of jejunal tube migration and complications related to surgery

• Technical arrangements are required when comparing with adults and other indications (e.g. palliation)

• Timing of LAMS removal and cost-effectiveness evaluation requires further investigation.