

The use of pyloric EndoFLIP to assess response to Botulinum Toxin injection in Children

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Background

Gastrointestinal complaints are common in children with neurodisabilities, with vomiting, retching and poor feed tolerance being frequently reported. EndoFLIP is used to assess compliance and distensibility of the pylorus and can predict response to Botulinum Toxin in adults with gastroparesis.

Aims

- Review pyloric muscle measurements using EndoFLIP via existing gastrostomy stoma in children with neuromuscular disabilities and significant foregut symptoms.
- Assess response to intrapyloric Botulinum Toxin by using modified Gastroparesis Cardinal Symptom Index (GCSI).

Results

- Eighteen measurement in 10 children were obtained, mean age $10.7 \pm (4.2)$ years.

Parameter (mean± SD)	20ml Balloon volume		30ml Balloon volume		40ml Balloon volume	
	Before	After	Before	After	Before	After
Diameter (mm)	6.4 ± 1.4	6.6 ± 1.1	8.1 ± 2.7	8.4 ± 2.5	10.6 ± 4.9	9.9 ± 2.5
Balloon pressure (mmHg)	13.4 ± 5.2	10.8 ± 6.8	18.7 ± 9.0	20.7 ± 11.2	32.2 ± 11.4	34.6 ± 15.7
Distensibility (mm ² /mmHg)	2.9 ± 1.7	3.5 ± 1.6	3.2 ± 2.1	3.2 ± 1.9	3.0 ± 2.2	3.1 ± 0.9
Compliance (mm ³ /mmHg)	99.8 ± 61.5	137.5 ± 37.3	88.5 ± 41.3	143.7 ± 76.4	107.1 ± 40.1	96.1 ± 36.0

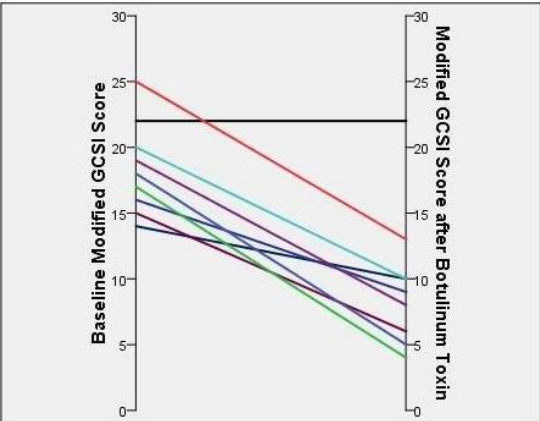


Figure 1. GCSI Score before and after botulinum toxin

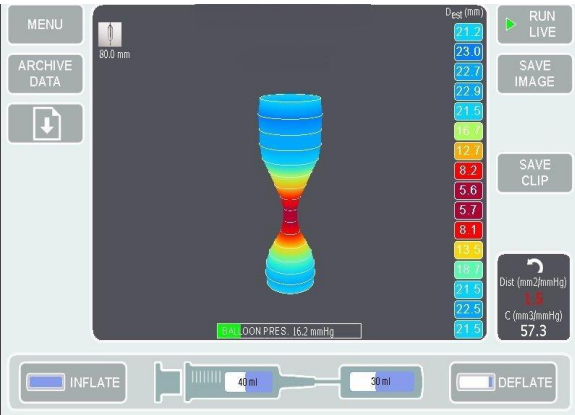


Figure 2. EndoFLIP interface

Conclusions

Intrapyloric Botulinum Toxin appears to be safe and effective in this cohort of children leading to improvement in both pyloric measurements and clinical symptoms.