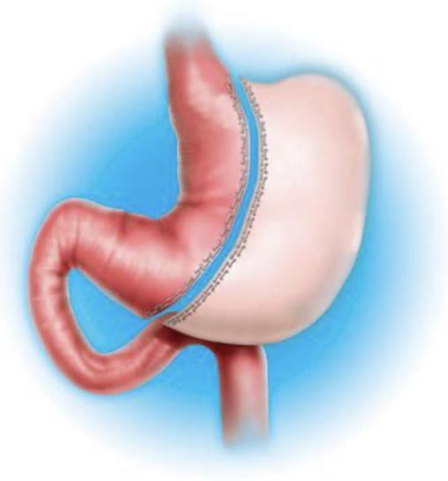
Anatomical Variants of Proximal Stomach Post Sleeve Gastrectomy

A Physiological Approach To Symptoms



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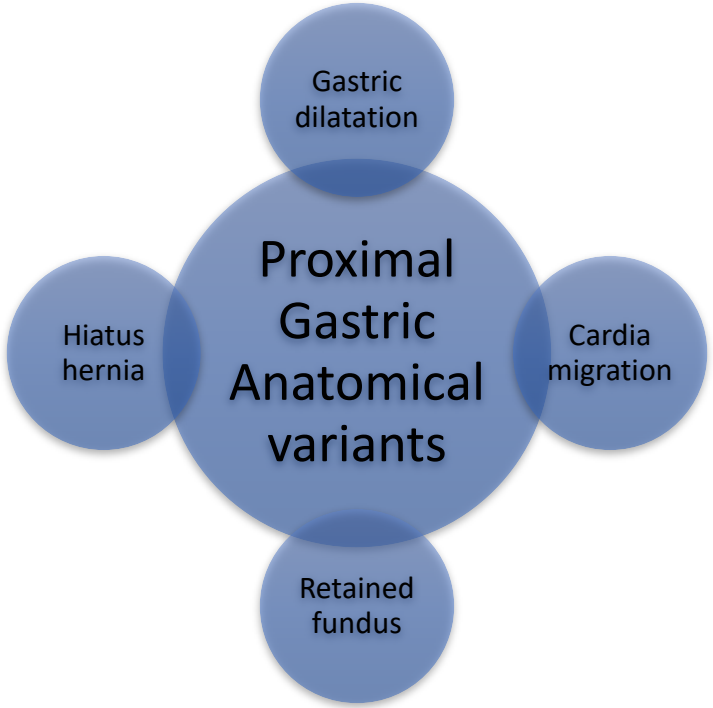
Background

- Anatomical variants of proximal gastric pouch post sleeve gastrectomy is common[1,2,3]
- Management of symptoms can be complex
  "Especially when they intersect"



Management Conundrum

Poor understanding on its impact on GI physiology

Aim

- To evaluate the physiological impact of anatomical distortions on bolus transit using:

1. High resolution manometry
2. pH studies
3. Nuclear scintigraphy – oesophageal and gastric emptying

1. Disse, E., Pasquer, A., Pelascini, E. *et al.* **Dilatation of Sleeve Gastrectomy: Myth or Reality**?. *OBES SURG* **27**, 30–37 (2017).
2. Braghetto I, Cortes C, Herquinigo D, Csendes P, Rojas A, Mushle M, Korn O, Valladares H, Csendes A, Maria Burgos A, Papapietro K. Evaluation of the radiological gastric capacity and evolution of the BMI 2–3 years after sleeve gastrectomy. Obes Surg. 2009;19(9): 1262–9.
3. Noel P, Nedelcu M, Nocca D, Schneck AS, Gugenheim J, Iannelli A, Gagner M. Revised sleeve gastrectomy: another option for weight loss failure after sleeve gastrectomy. Surg Endosc. 2014;28(4):1096–102.

Trial Methodology

Prospective trial

Inclusion criteria

Patient post sleeve gastrectomy with endoscopy or contrast swallow showing a retained fundus

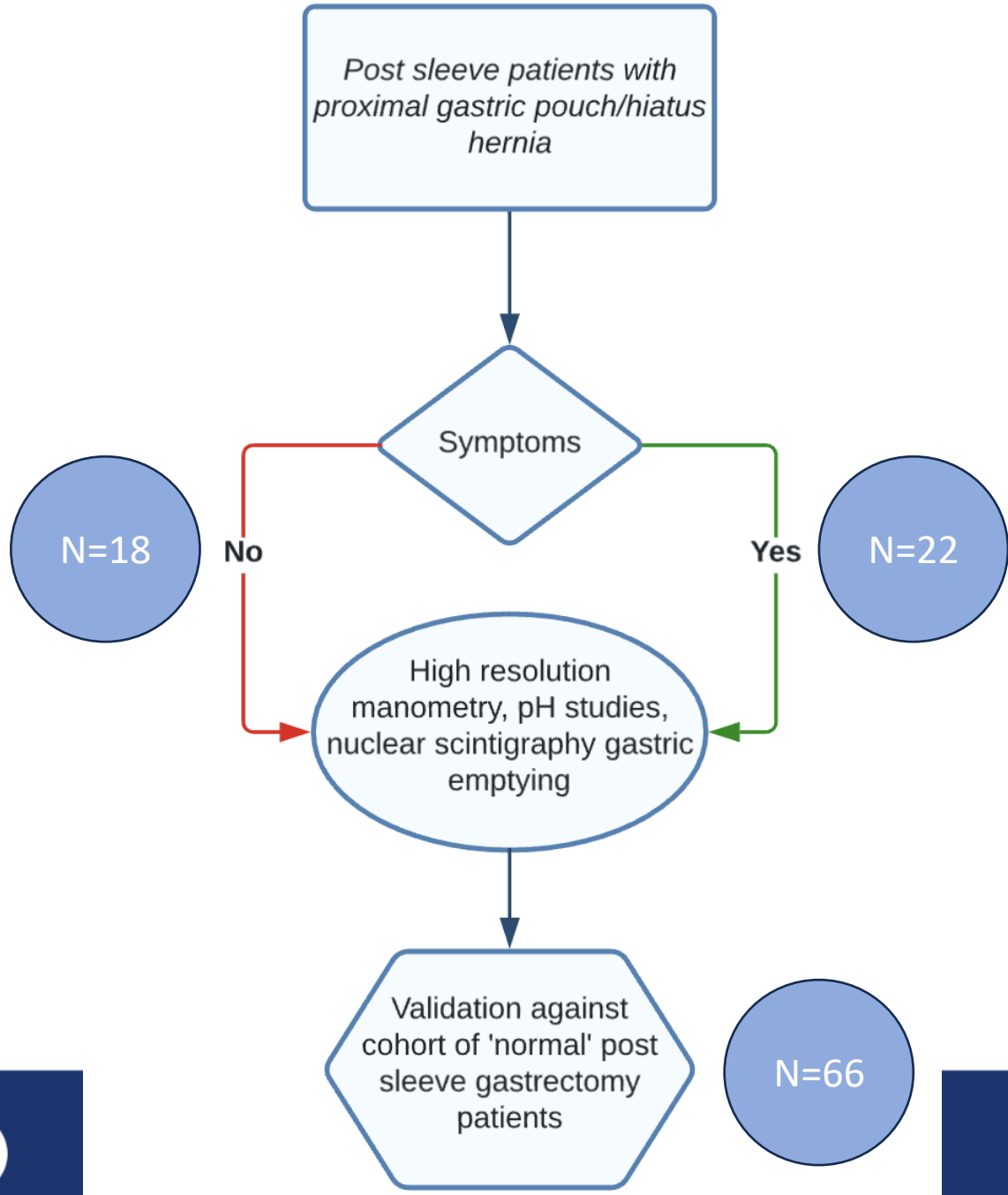
OR

dilated proximal stomach

*asymptomatic patients recruited from routine annual endoscopy

Exclusion criteria

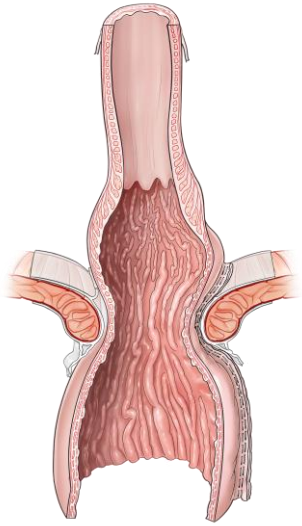
- Grossly dilated sleeve >500ml
- Incisural stricture



(Trial registration number ACTRN12616001089426, Alfred Ethics number 380/16)

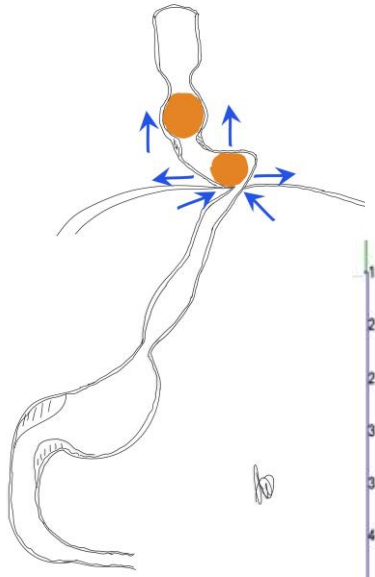
3 distinct clinical entities

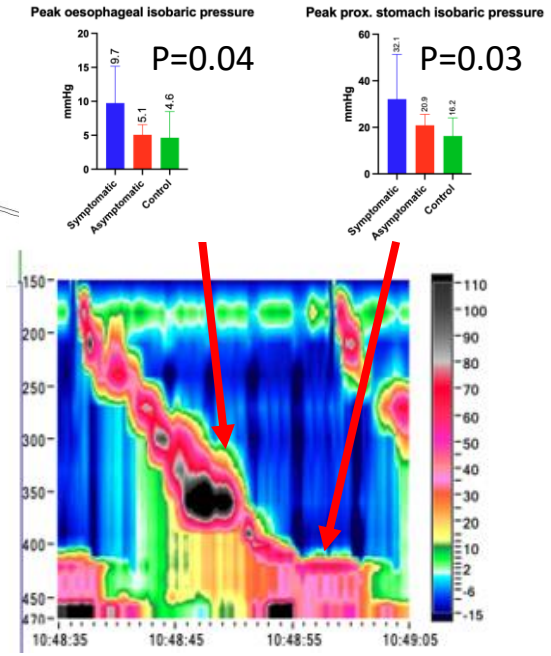
1. Variant anatomy with normal physiology



- Normal oesophageal motility with normal pressures
- Normal Bolus emptying
- Visceral hypersensitivity

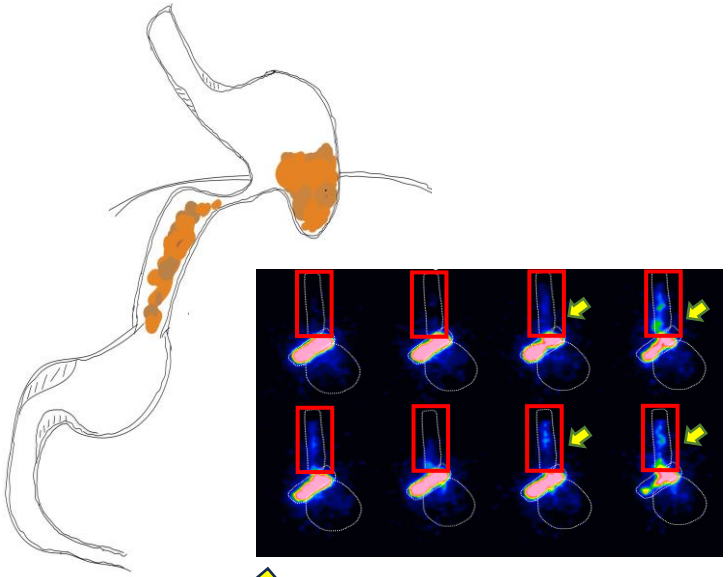
2. Bolus Obstruction





- High oesophageal/proximal gastric isobaric pressure
- Anatomical narrowing or hiatal impingement

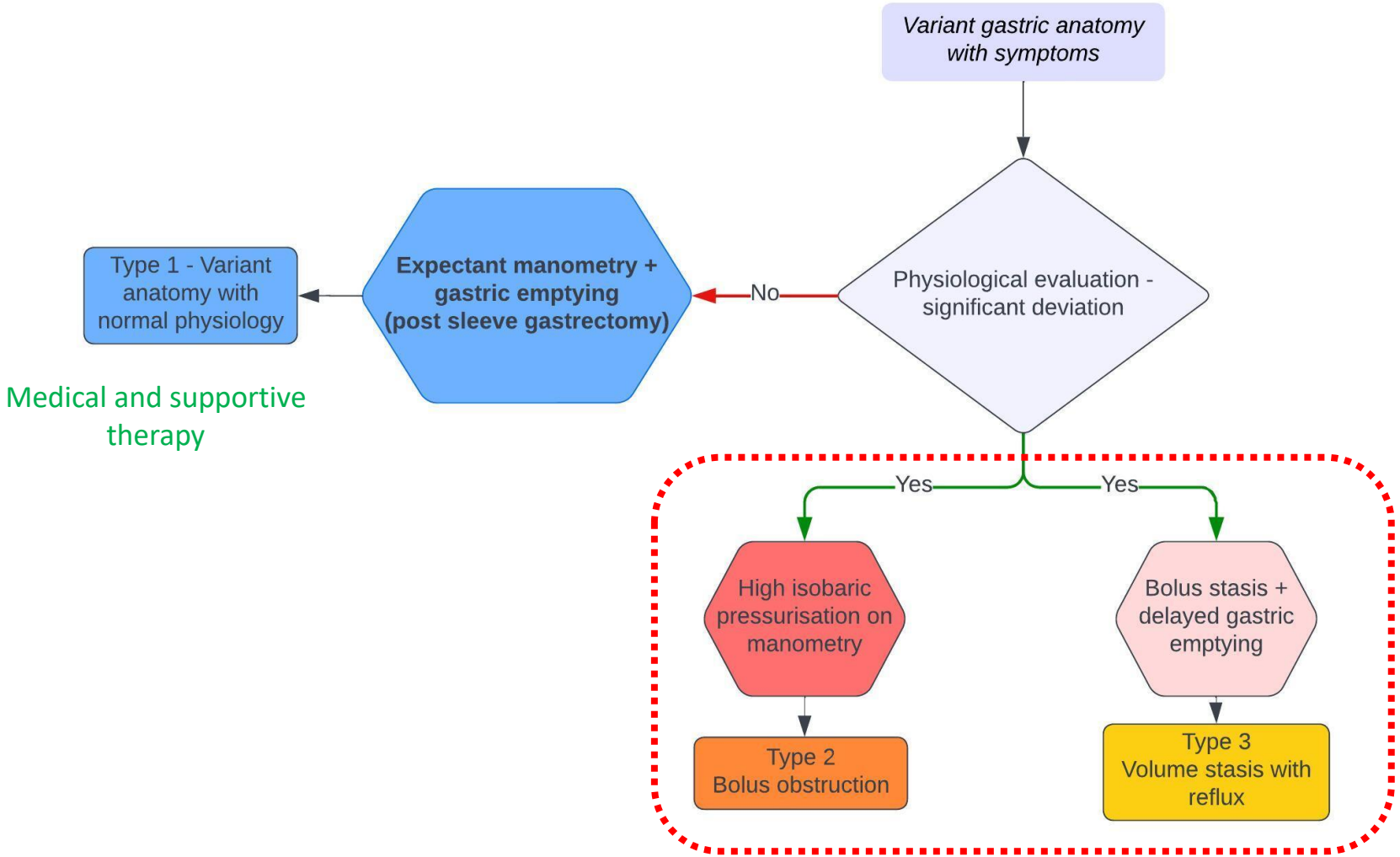
3.Volume stasis with reflux



Bolus reflux events into oesophagus

- Bolus stasis on gastric emptying
- Reflux over time

Clinical Decision-Making Pathway



Patient considering surgical revision

Tailor revisions to correct anatomical distortion to improve physiology

Conclusion

- Sleeve gastrectomy may result in different variants of proximal gastric pouch.

- Physiological studies (HRM, pH and Nuclear Scintigraphy): Can be readily adapted to evaluate physiological dysfunction in the post-surgical state.

- 3 main physiological patterns associated with anatomical variations of proximal pouch

I. Visceral hypersensitivity
II. Bolus obstruction
III. Volume stasis

- Enhanced understanding on the physiological impact and improve success of revisional surgery