

Malabsorption syndrome following surgical resection for oesophageal and gastric carcinoma - should patients be routinely screened ?

A Mc Hugh, M Fanning, LA Healy, C Browne, M Brennan, P Lawlor, N Ravi and JV Reynolds

Dept. of Clinical Nutrition, Gastrointestinal function unit
Dept. of Surgery, St James's Hospital

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Background

Resections for oesophageal and gastric cancer have a major impact on nutritional status

- 64% of patients lost >10% of pre-op BMI
- 20% of patients lost >20% of pre-op BMI 6 months after oesophagectomy (*Lagergren et al 2007*)
- 69% of patients lost >10% of pre-op weight following gastrectomy (*Ryan et al 2007*)
- Post-operative malnutrition is a common problem with multifactorial causes
- Symptoms of malabsorption not routinely considered
- Limited research and publications

Malabsorption

Malabsorption - global term to describe all aspects of impairment of digestion and absorption (WGO)

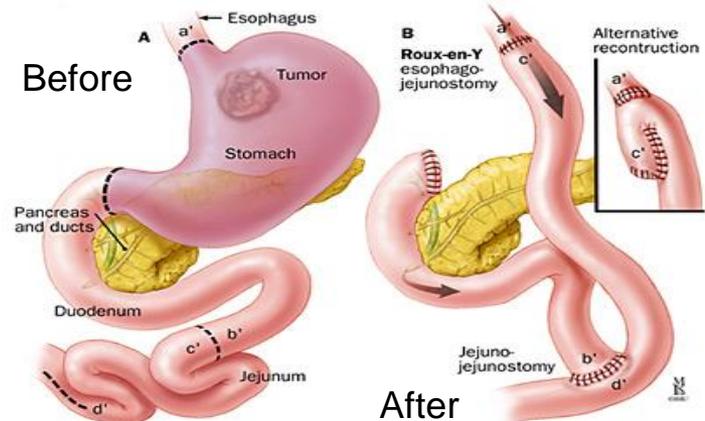
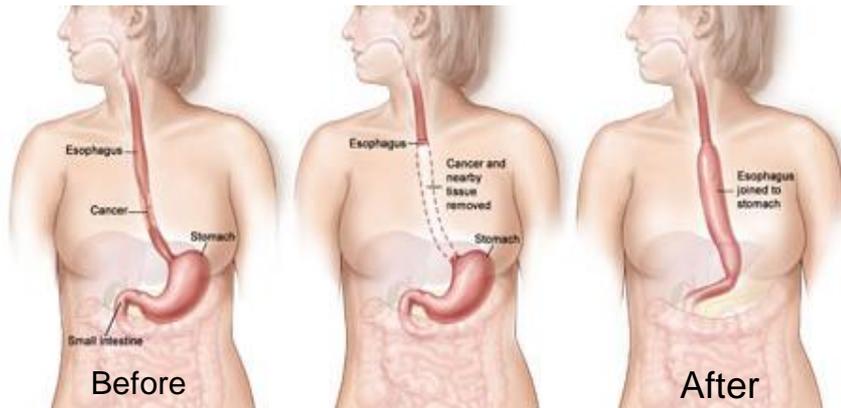
Symptoms:

- Chronic diarrhoea
- Steatorrhoea: pale, foul-smelling stools, difficult to flush
- Bloating, excessive flatus, abdominal cramps
- Weight loss, tiredness, fatigue
- Micronutrient deficiencies

Investigations

1. Blood tests
2. Stool studies - culture, faecal fat, faecal elastase
3. Interventional studies – imaging and endoscopy
4. Other - Hydrogen breath test, SeHCAT

Oesophagectomy & Gastrectomy



Mechanisms leading to malabsorption

Surgical resection - structural changes

Inadequate gastric mixing, rapid gastric emptying, or both

Abnormal motility

Insufficient pancreatic enzyme production/activity

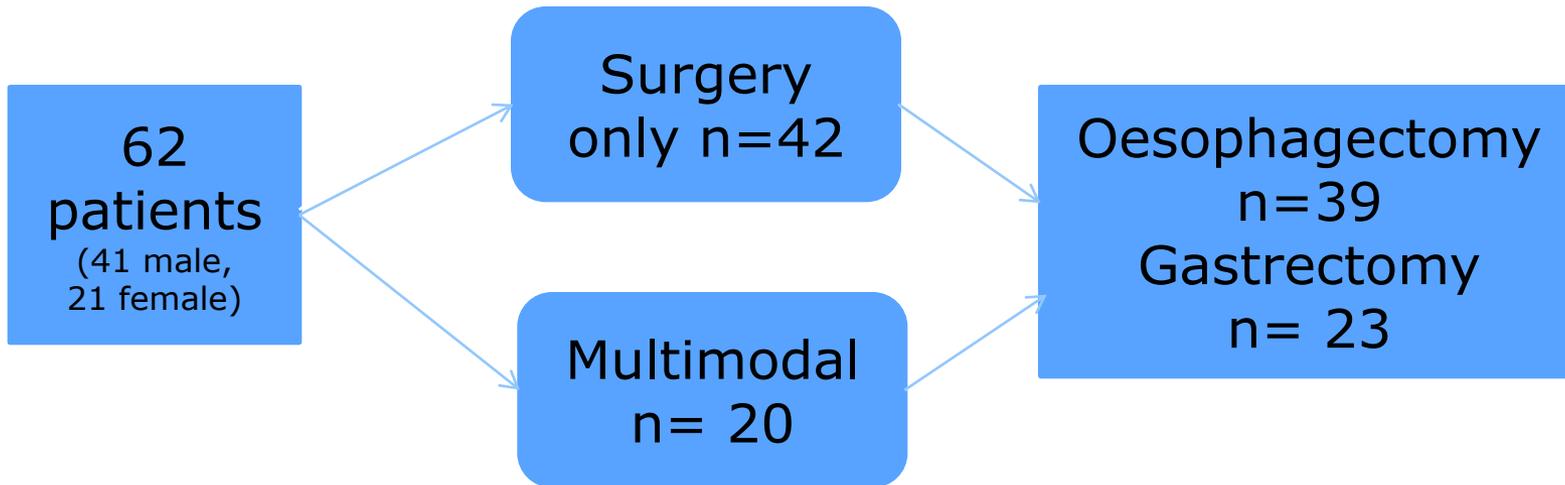
Gastrointestinal pH, Bacterial overgrowth

Aim and Methods

Aim: To retrospectively explore the problem of post-operative malabsorption in a tertiary referral centre for oesophageal and gastric cancer surgery.

- Retrospective analysis of 62 patients attending OPD after oesophagectomy or gastrectomy
- Regular follow-up by senior surgeon and specialist dietitian
- Persistent weight loss, difficulty gaining weight
- Malabsorptive symptoms noted and faecal elastase-1 and hydrogen breath tests ordered
- Data collected from dietetic notes, medical records and cancer database

Results



- Patients treated with curative intent
- Median time from initial surgery to OPD presentation was 6 months (range 0-5 years)

Results

Pancreatic insufficiency

1. Faecal elastase-1 tests n=47 (76%)

Result	Range µg/g stool	No. of cases (%)
Normal	200-500	33 (70)
Mild-moderate insufficiency	100-200	8 (17)
Severe insufficiency	<100	6 (13)

15.8% post oesophagectomy patients had FE-1 <200 µg/g
(Huddy et al 2012)

Small intestinal bacterial overgrowth

2. Hydrogen breath tests n=35 (56%)

Result	No. of patients (%)
Positive	26 (74%)
Glucose	17
Fructose	23
Borderline positive	3
Negative	3
Inconclusive	3

Discussion

- Results confirm the observation that post-op malabsorption occurs
- Patients with persistent weight loss and difficulty gaining weight should be screened for symptoms of malabsorption
- Useful tests include faecal elastase test and hydrogen breath test
- Symptom based approach is vital
- Multi-factorial mechanisms involved

Future research

- Further investigation required in this area
- Prospective interdisciplinary study now established:
 - Faecal Elastase test
 - Coeliac serology (serum Ttg, IgA)
 - Thyroid function tests
 - Hydrogen breath tests
 - SecHAT scan (when indicated)
 - Standardised nutritional assessment including micronutrient serum levels
 - GI symptom questionnaire

Cancer survivorship and QOL!

Thank You



amchugh@stjames.ie