

LIVING WITH AND BEYOND CANCER – NUTRITION

Natalie (Hui Kei) Mak

Specialist Upper GI Surgery Dietitian, St Thomas' Hospital

- My background
- Life after cancer
- Nutrition consequences after surgery
- Malnutrition
- Long term symptom management
 - Strictures
 - Delayed gastric emptying
 - Dumping syndrome
 - PEI
 - Bile acid malabsorption
 - Bacteria overgrowth
- Micronutrients

LIFE AFTER CANCER

- Cancer survival in the UK has doubled in the last 50 years (increased from 24% to 50%)
- 4 million people in the UK will be living with long term consequences of cancer by 2030
- However, there is limited research on the problems people face and solutions around it

NUTRITION COUNSELLING AFTER SURGERY

Reduce or no stomach capacity

Change of portion size (~1/2)

Weight/muscle loss

Reduce to no appetite

Feeling full easily

Change of eating pattern

Micronutrients

Life long changes





MALNUTRITION – WHAT CAN WE DO?



Causes:

- Low appetite
- Adjustment difficulties
- Swallowing difficulties (dysphagia)
- Significant GI symptoms
- Post-op complications
- Delayed gastric emptying/holdup
- Lack of confidence/Anxiety

Solutions:

- Consultation with dietician
- Oral nutritional supplements
- Short/long term tube feeding
 - Nasojejunal tube
 - Jejunostomy tube
- Parenteral nutrition



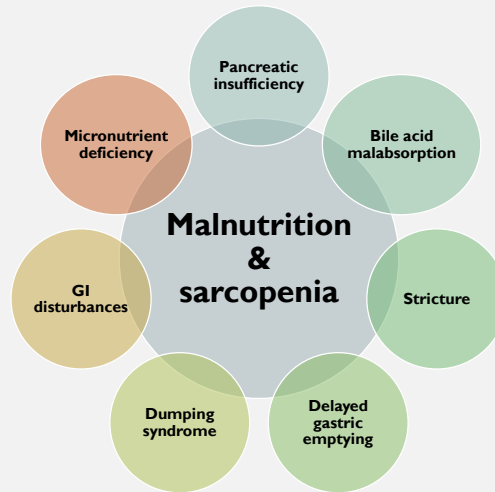
Goal:
Optimising nutrition status to
facilitate rehabilitation post surgery

SURVIVORSHIP SERVICE

Outpatient clinic: UGI specialist nurse and dietician-led follow-up

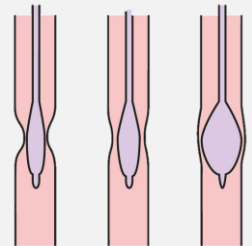
- Optimisation of consequences of treatment
- Restoration and improvement of Quality of Life (QOL)
- Education & engagement
- Promote healthy lifestyle choices
- Surveillance for recurrence

LONG TERM SYMPTOM MANAGEMENT



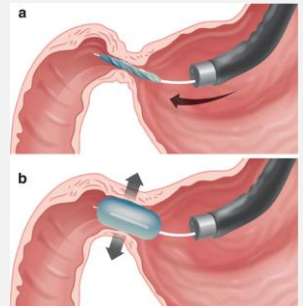
ANASTOMOTIC STRICTURE

- Feeling of swallowing difficulties/food getting 'stuck'
- 'Is my cancer coming back?'
- Aim to preserve nutritional status between stricture episodes
- Endoscopy – balloon dilatation (one or many)
- Texture modified diet? supplements? Tube feeding (NJ)?



DELAYED GASTRIC EMPTYING

- Symptoms – reflux/regurgitation, getting fuller as the day goes on, might be vomiting in severe cases
- Interference with gastric innervation
- Aim to preserve nutritional status between episodes
- Endoscopy +/- pyloric dilation
- Texture modified diet? supplements? Tube feeding?



DUMPING SYNDROME

- Pathophysiology is poorly understood
- Food/fluid traveling into the small intestine more rapid than it should (usually caused by a high sugar meal), causing following unpleasant symptoms:

Early dumping syndrome (10-30 mins after eating)	Late dumping syndrome (1-3 hours after eating)
GI symptoms: nausea, vomiting, abdominal cramps, diarrhoea	Exaggerated release of insulin, leading to low blood sugar
Cardiovascular symptoms: palpitation, flushing, sweating and faintness	Symptoms: Sweating, flushing, dizziness, palpitation. Severe cases – blackouts

DIETARY MODIFICATIONS

- Avoid simple and high sugar food (e.g. sweets, honey, syrups, sugary drinks)
- Select complex carbs (lower glycaemic index)
- Little and often meal pattern (avoid large meals)
- Restricting fluid at mealtimes
- Incorporate fibre and protein into meal to increase gut transit time



PANCREATIC INSUFFICIENCY

- Function of pancreas: 1) support digestive system 2) support endocrine system (insulin)
- Reduction of enzyme production 2nd to interruption of neuroendocrine signals, and up to 80% patients who had gastric, duodenal and pancreatic surgery experience this issue
- Signs and symptoms:
 - Fatty stools (floating, difficult to flush, coating the whole toilet bowl, foul smell)
 - Nausea and vomiting, bloating, abdominal pain/bloating (worsen after eating)
- Long term issue (malnutrition and micronutrient deficiency)
- Diagnostic test (faecal elastase < 200 µg/g)
- Treatment (PERT) e.g. Creon, Nutrizym
 - Dosage, administrating time



BILE ACID MALABSORPTION

- Bile is produced in liver and stored in gall bladder. It helps to emulsify fat
- Normally, 95% bile acid is reabsorbed at the end of your small intestine (ileum), however, when it's not being reabsorbed into the system, it will enter the large bowel and being passed as watery and pale diarrhoea
- Causes for post UGI surgery is poorly understood
- Signs and symptoms – watery diarrhoea, burning sensation when passing stool, frequent bowel movement
- Diagnostic test (SeCHAT scan)
- Treatment (bile acid sequestrant e.g. Colesavelam, Cholestyramine)

SMALL INTESTINAL BACTERIAL OVERGROWTH

- Low stomach acid reduces the body's ability to moderate bacterial growth
- Imbalance of the microorganisms (too much 'bad' bacteria) in the gut that maintain healthy digestion
- Common in chemotherapy or after UGI surgeries, research showed 53% of post major upper GI surgery do experience SIBO
- Signs and symptoms – abdominal pain, abdominal distention, bloating, nausea, indigestion, diarrhoea, constipation

VITAMIN AND MINERAL DEFICIENCIES

	Iron, folate and ferritin	Vitamin B12	Vitamin D	Zinc
Cause	<ul style="list-style-type: none"> - Gastric acid is essential for converting insoluble iron from diet to absorbable form - Reduced to no gastric production might lead to malabsorption (due to change of anatomy and use of PPI) 	<ul style="list-style-type: none"> - Gastric acid production correlates with B12 absorption - Due to the change of anatomy and use of PPI, leading to reduce gastric acid production, it'll result in reduced to no absorption of B12 from food 	<ul style="list-style-type: none"> - Weather - Reduced exposure of sun during treatment - ~80% of our patient are insufficient/deficient at diagnosis 	<ul style="list-style-type: none"> - Absorbed in start of small intestine, and protein promotes zinc absorption - Lower protein intake, reduced gastric acid and quicker intestinal transit will lead to reduced absorption
Symptoms	<p>Iron deficiency anaemia:</p> <ul style="list-style-type: none"> - tiredness, fatigue, lethargy, dizziness, SOB, weakness - palpitations, angina - Headache, depression, confusion - poor condition of hair, nails, skin - restless leg syndrome - poor wound healing 	<ul style="list-style-type: none"> • Tiredness, lack of energy • pins and needles • muscle weakness • Depression • problems with memory, understanding, judgement 	<ul style="list-style-type: none"> • Lowered immunity • Tiredness, aches and pain, muscle weakness • Low mood, depression 	<ul style="list-style-type: none"> • Poor appetite, leading to weight loss • Change in taste or smell • Poor wound healing • Hair loss • More susceptible to infections • Depression and anxiety

WHAT CAN I DO?

Eating food that are high in these minerals/vitamins?

Taking vitamin/mineral supplement?

	Iron, folate and ferritin	Vitamin B12	Vitamin D	Zinc
Management	<ul style="list-style-type: none"> • Yearly GP monitoring • oral iron supplements • IV iron infusions if severe iron deficiency and/or oral iron not effective 	<ul style="list-style-type: none"> • Yearly GP monitoring • B12 injection (3 monthly for life) 	<ul style="list-style-type: none"> • Yearly GP monitoring • Vitamin D supplementation • ?DEXA scan 	<ul style="list-style-type: none"> • Yearly GP monitoring • Zinc supplementation – poorly tolerated

Q&A

