Pancreatic Cancer UK

NHS Lothian

NUTRITIONAL MANAGEMENT OF PANCREATIC CANCER

Fiona Macleod

Surgical Dietitian

Royal Infirmary Edinburgh

INTRODUCTION

- Nutritional Challenges
- Poor appetite
- Food fortification
- Oral Nutritional Support
- Chemotherapy
- Surgery
- Enteral feeding
- Duodenal Stent
- Diabetes type 3c

INTRODUCTION

- Nutritional management is critical in the treatment of pancreatic cancer and optimising patient wellbeing.
- Malnutrition or cachexia presents in 70 - 80% of all pancreatic cancer patients.
- Weight loss negatively affects treatment
- PEI underdiagnosed
- Nutritional goals should be determined by treatment plan (PENG)
- Early intervention with nutritional therapy can improve Quality of life and survival

POLL

Should all patients with a new diagnosis of pancreatic cancer be referred to a Dietitian?

- Yes
- No
- Only if MUST 2 or above.

POOR APPETITE

- Poor appetite can be caused by the cancer itself of treatment.
- Encourage patients to report appetite changes to the MDT to minimise nutritional losses.
- Medical management of symptoms – optimise to improve appetite
- Assess mood and QoI – depression and anxiety
- Dietary management to optimise diet intake and counselling on diet changes.

FIRST LINE DIET ADVICE

Aim – Improve total daily diet intake

- Eat little and often
- Utilise times when appetite is best
- Focus on nutritious foods + fluids
- Adapt food choices depending on taste changes
- Exercise to stimulate appetite.
- PERT prescription and education
- Blood sugar control
- Patient expectation

Nourishing Drink Ideas

Fortified Milk:

4 tablespoons of dried skimmed milk powder mixed with 1 pint whole milk.

In 200mls = 204kcals and 14g protein.

Strawberries & Cream Shake

Ingredients:

150ml Whole Milk
2 Scoops Ice-Cream (Vanilla or Strawberry)
5 Small Strawberries
2 tbsp Double Cream
2 tbsp Skimmed Milk Powder

500kcals and 18.7g

Iced Coffee V

Ingredients:

3 Dates
150ml Soya Milk (Can use other dairy free milk.)
1.5 tbsp Smooth Peanut Butter
1 tsp Golden/Maple Syrup
1 tbsp Coffee Granules

Method:

Blend all ingredients until smooth

340 Kcal and 14g protein

MAKING EVERY MOUTHFUL COUNT

When only small portions are tolerated food fortification can help to increase total dietary intake.

Wide range of literature available to educate. Early diet changes recommended to prevent nutritional losses.

Nourishing drinks ideas.

Lifestyle changes

Correct dose of PERT to increased fat intake.

Statement 4.6: Dietary fat restriction is not routinely recommended, but very high-fibre diets should be avoided (grade 1C; 96% agreement)

Some patients require a high-fat, high-protein diet if they are nutritionally depleted and have a low appetite. Increasing the fat content of the diet has been shown to be well tolerated in patients with CP.[102 103] Low-fat diets may exacerbate malnutrition and should be avoided, unless there is a specific reason for fat intolerance. Very high-fibre diets (>25 g/day) may absorb enzymes and delay nutrient absorption and, therefore, are not recommended.[104]

Mary E Philips 2021

POLL

When would you expect to typically see the clinical benefits of ONS when used in the community?

1-2 months

2-3 months

3-6months

ORAL NUTRITIONAL SUPPLEMENTS (ONS)

- ONS contain energy, protein, vitamins and minerals. Many variations to fit to the patients specific needs.
- ONS are prescribed products (ACBS) used for patients that are high risk for malnutrition
- ONS generally advised between meals if patients tolerating taking diet. 'FOOD FIRST'.
- ERAS guidelines recommend 'liberal' prescription of oral supplements pre- and postoperatively in UGI surgery – consider for surgical resections.
- ONS and PERT – MCT and fat free options can be better tolerated.

PATIENT EXAMPLE

Referred with MUST 2 with new diagnosis of HOP cancer (locally advanced). 12% total weight loss in 4 months. BMI 25kg/m2. Female 62 yrs.

Symptoms – weight loss, poor appetite, loose stools and reporting intolerance with dairy foods.

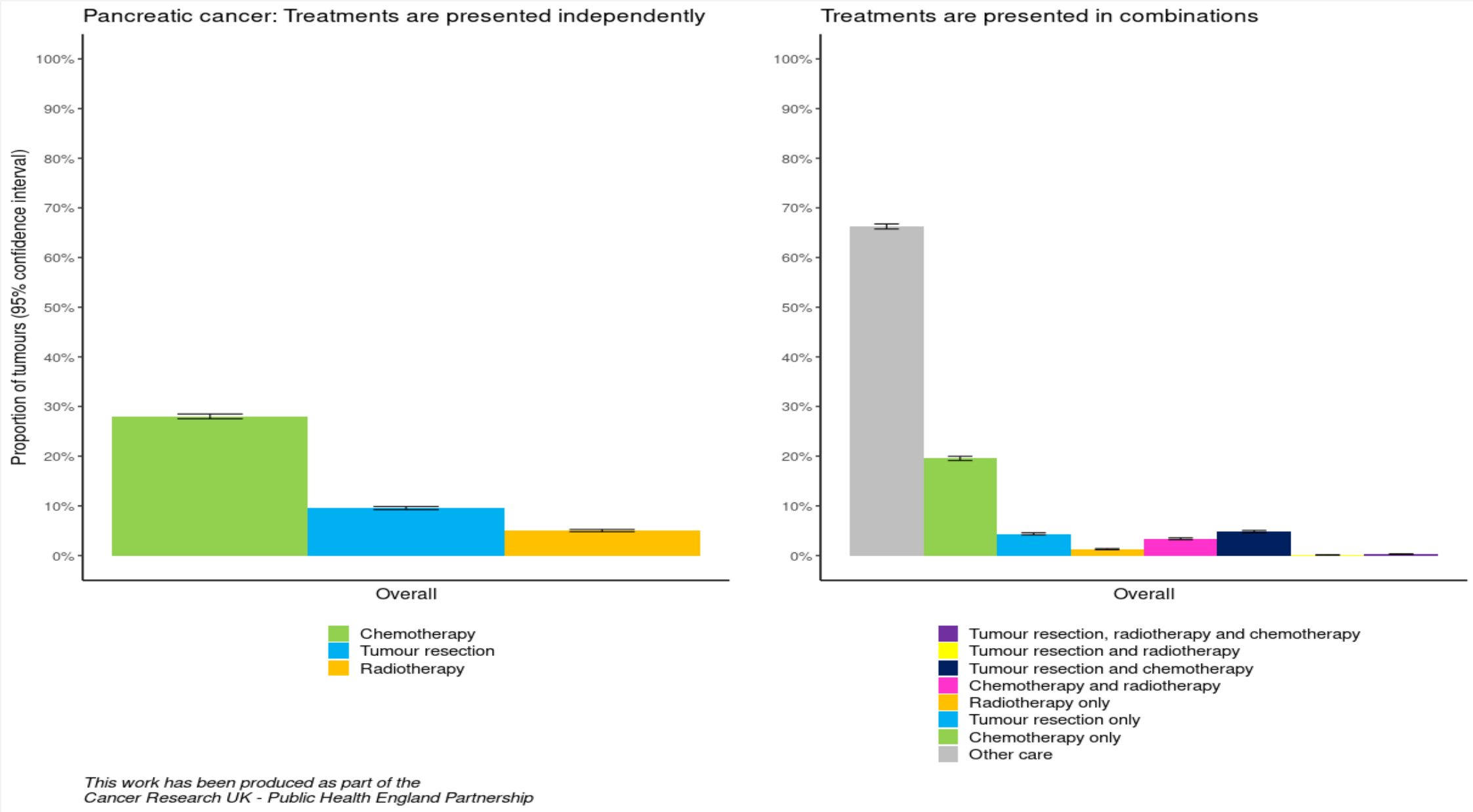
Diet hx – Missing meals. Snacking on fruit and biscuits.

Treatment plan – aiming for neo adjuvant chemo and surgery.

Intervention – PERT started and loose stools/intolerance resolved. Started to take 6-8 small meals/snacks per day with PERT. ONS started – preference for juice.

Outcome – weight stabilised on 2 week review. Mood improved.

Pancreatic Cancer Treatment Statistics



This work has been produced as part of the
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CHEMOTHERAPY TERMS

- Neo-ADJUVANT - before surgery to try shrink the size of tumour. There is currently no proven role for neo-adjuvant therapy. It should therefore only be considered in the context of a clinical trial. PRIMUS 002 trial.
- ADJUVANT - after surgery to try to reduce the chances of the cancer coming back. NICE recommends patients are well recovered post op prior to adjuvant therapy.
- ADVANCED CANCER/PALLIATIVE -Chemo can be used when the cancer is advanced and can't be removed completely with surgery or if surgery isn't an option.

Chemotherapy dosed on body weight.

Chemotherapy is most effective when 2 or more drugs are used (combined treatment) however this comes with added side effects and dependent on fitness.

CHEMOTHERAPY

- Only 2 in 10 people will receive chemotherapy
- Side effects from chemotherapy can exacerbate nutritional losses – nausea, diarrhoea, constipation, taste changes, mucositis, fatigue and toxicities.
- UKCONS guidelines. Grade symptoms with an appropriate management plan. (Red, Amber, Green protocol)
- Nursing telephone consultation prior to each chemotherapy cycle to assess tolerance to chemotherapy and manage symptoms.
- Report symptoms asap to allow treatment/prevent complications

NAUSEA

Types: Acute induced nausea or delayed nausea

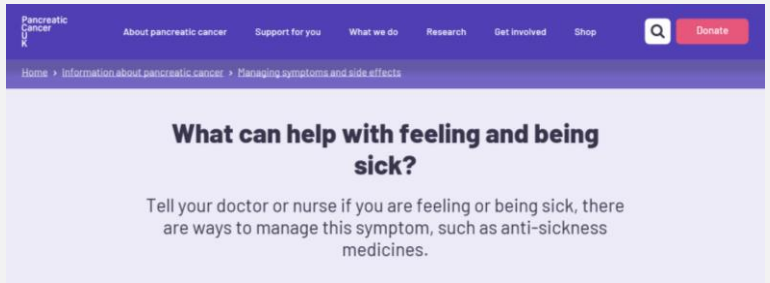
Dexamethasone commonly given pre treatment and to take home.

Steroids may induce / unmask/ destabilise diabetes – monitors bloods sugars

Grade 1-2 nausea: provide dietary advice to manage nausea. Monitor hydration. Consider peppermint/ginger teas, mints, and ginger biscuits which may ease nausea.

- Assess if certain foods are exacerbating nausea
- Review if smells or certain times in day are linked to nausea.

Grade 3-4 (pts unable to take diet) - consider IV fluids/ electrolyte replacement/ IV antiemetics.



BOWEL ISSUES

CONSTIPATION

- Constipation: advice on optimising fluid intakes and review fibre intakes. Poor dietary intake can exacerbate.
- Grade 3 or above = no bowel movement for 72 hours over pre-treatment normal
- Constipating drugs - Opiates and some antiemetics.
- Laxatives

DIARRHOEA

- Medications to treat – loperamide and codeine phosphate
- Review medications that can cause
- Hydrate
- Patients maybe reluctant to eat until resolved – nourishing drinks.
- Consider PERT
- Electrolytes

SIDE EFFECTS

MUCOSITIS

Advice:

- soft toothbrush + regular dental/oral hygiene
- rinse your mouth with warm water (or water mixed with a bit of salt) several times a day
- suck on crushed ice or ice lollies
- eat soft moist foods
- chew sugar-free gum (this can help keep your mouth moist)
- Avoid foods that can irritate.

TASTE CHANGES

Chemotherapy can effect taste receptor cells directly + reduce saliva.

- Foods that are normally preferred can taste different
- Foods can taste bland
- Metallic tastes common

Adapt diet around taste changes/issues

Consider plastic cutlery if metallic tastes and encourage experimenting with different herbs/spices/cooking methods.

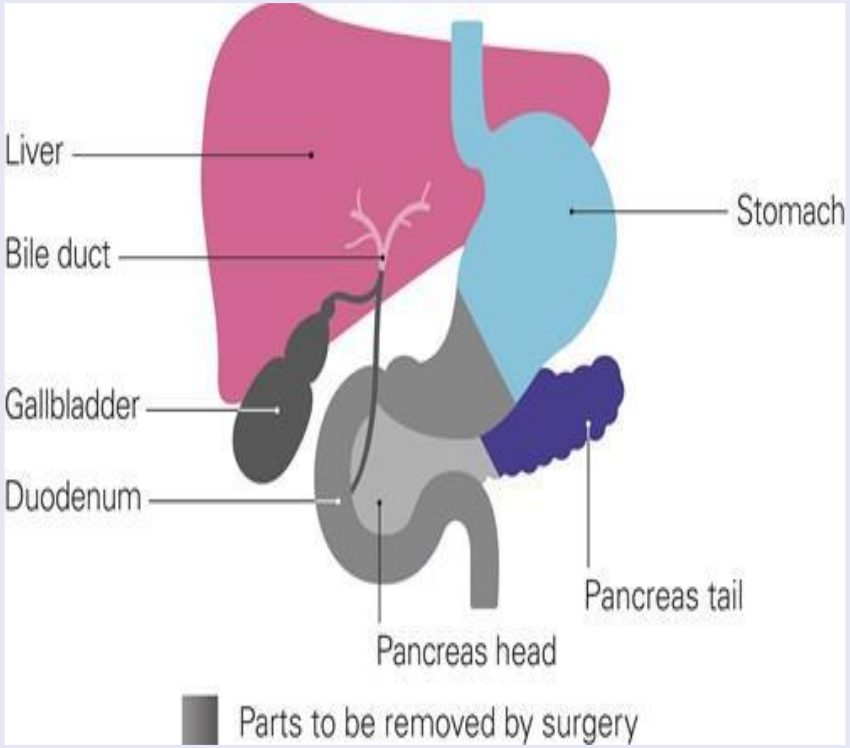
SURGERY

- 1 in 10 (9.7%) of people with pancreatic cancer will have surgery
- Pancreatic surgery can have significant nutritional implications.
- ERAS pathways followed by some centres post operatively
- Nutritional conditioning should be considered.
- Fitness post surgery for adjuvant chemotherapy

TYPES OF SURGERY

Types of surgery:

- Whipples (see image) – PEI highly likely. PERT required.
- Distal Pancreactectomy (body or tail) PEI - 20-80% post-op
- Total Pancreatectomy (large tumours). Life long PERT and insulin therapy. +/- spleen
- Palliative gastrojejunostomy (nonresectable tumours that require bypass). GOO presents in 10-20% PC patients.



POST OP

- Effects of surgery – pain/meds/drains/loss of appetite
- Oral vs EN debate – ESPEN guidelines + ERAS deem oral preferable
- Consider nutritional status + risk of underfeeding in the already malnourished.
- Pre-op nutrition assessment to guide nutritional intervention post op and highlight high risk patients.

POST OP CARE

- Start sips day 1 then progress with step wise approach: free fluids - reintroducing a light diet - soft diet - building up to eating and drinking normally again
- Meet nutritional requirements in line with post op guidance – Raised REE (PENG/ESPEN).
- Consider losses from drains/NG – monitor electrolytes.
- Post op complications such as pancreatic leak/fistula – May require PN or NJ.
- Delayed gastric emptying (15-40% prevalence) –pro-kinetics, Bm control, soft small frequent meals. May require NJ feeding with gradual introduction to diet.

ENTERAL FEEDING

- Can be used pre or post op depending on nutritional status and post op complications.
- Consider EN for low output chyle leaks with aim to prevent TPN.
- Peptide based feed advised as 1st line
- Monitor for malabsorption – may require PERT dependent on surgery type.
- Pancreatin powder can be flushed down enteral tube every 2 hours or mix PERT with feed.

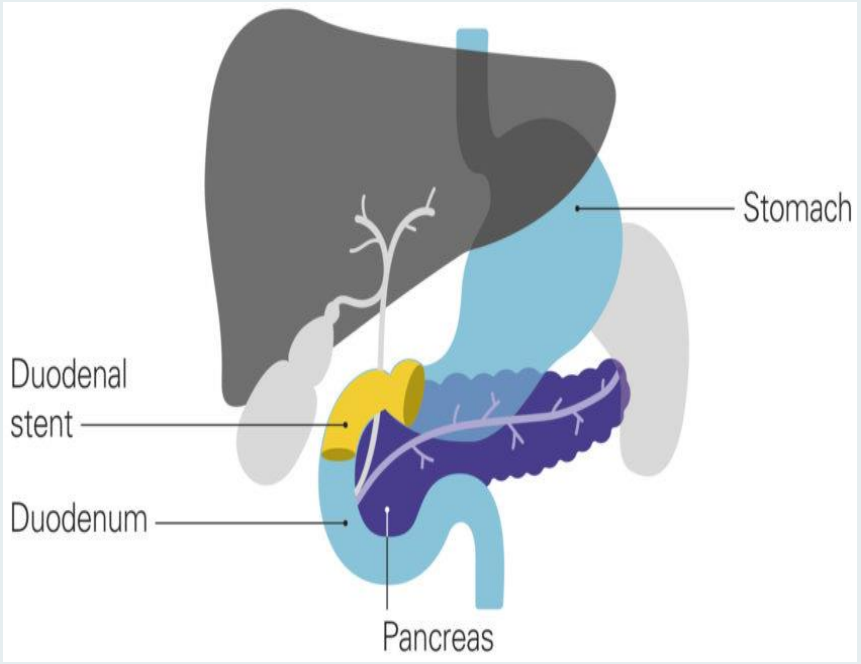
Box 2 Administration of PERT with enteral feeds

Powdered enzymes and feeding tubes
NB. Once mixed, use all products immediately. Do not leave to stand
Giving PERT as flushes: mix 1 g scoop pancreatin powder (Pancrex V Powder, Essential Pharmaceuticals, UK) with 50 mL sterile water. Shake well and immediately flush via a feeding tube. Do not give with other medication. Do not flush between the feed and the enzyme as this will reduce the mixing of the feed with the PERT. Administer every 2 hours hours throughout enteral feeding, increase dose of PERT if needed.
Mixing PERT with feed: add 1–2 g Pancrex V Powder directly to the feed in a feeding reservoir. Shake well. Hang straight away and for 4 hours hours only, increase dose of PERT if needed. (NB. Some feeds congeal when PERT is added - discuss with a tertiary centre dietitian prior to adding PERT to feed)
Flushing granules/mini-microspheres via large bore tubes (>CH20): mix with an acidic juice (such as Fortijuce (Nutricia Clinical Care, UK); Ensure Plus Juce (Abbott Nutrition, UK); Fresubin Jucy Drink (Fresenius Kabi, UK)) and flush via the feeding tube every 2 hours hours throughout enteral feeding, increase dose of PERT if needed

PERT, pancreatic enzyme replacement therapy

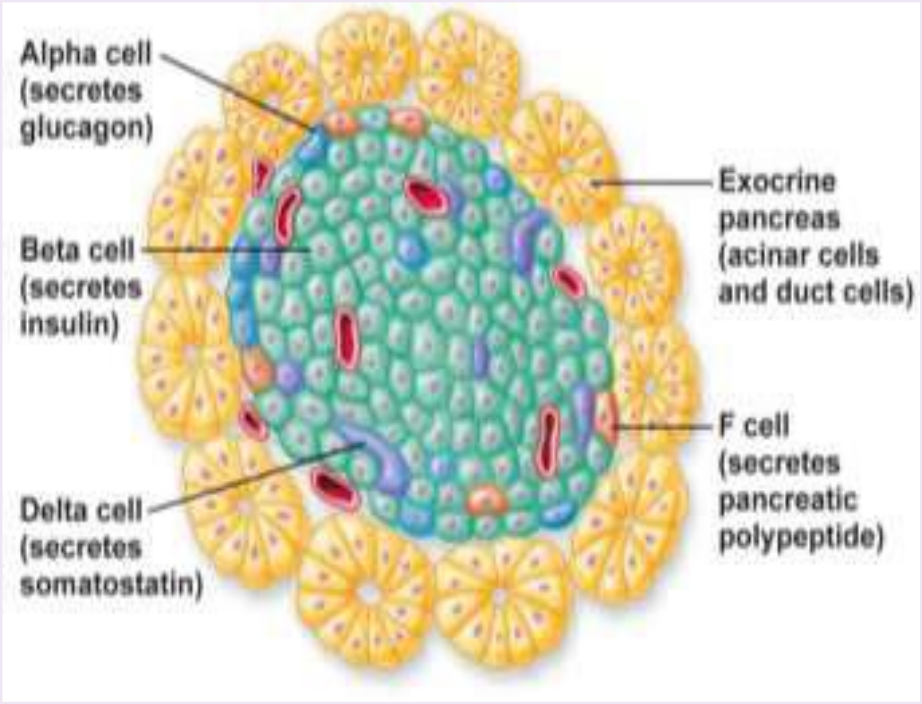
DUODENAL STENT

- Relieves symptoms caused by gastric outlet obstruction (cancer blocks food travelling from the stomach into the small intestine)
- Diet tolerance post stent varies widely consider medications to help gastric emptying/nausea.
- Dietitian to provide diet advice post stent
- Liquid diet post stent with gradual progression to soft moist diet
- Foods to avoid should be highlighted to prevent blockage of stent.



DIABETES 3C

- Insulin is needed to allow the glucose (or sugar) in our blood, from the food we eat to enter our cells and fuel our bodies and provide us with energy.
- Type 3c Diabetes develops when the pancreas does not produce enough insulin. Caused by damage to pancreas due to cancer or can be due to surgical resection or removal of pancreas.
- Characteristics – loss of islet cells and loss of pancreatic hormones causing swings from hypoglycaemia to hyperglycaemia. Difficult to manage.
- Poorly controlled diabetes can impact on physical healing, weight maintenance and quality of life
- Accounts of 9% of all diabetes cases. Underdiagnosed.



PEI & TYPE 3C DIABETES

Inadequate management of PEI with correct PERT dosing can result in hypos.

Hypos –malabsorption, deficiency in glucagon secretion, poor dietary intake, alcohol intake

*remember PERT needed with all hypo treatment

ONS - consider when reviewing trends in Bms + PERT.

TYPE 3C DIABETES

- Pancreatic Cancer - treatment dependent on total damage to pancreas. May start on metformin but progress to needing insulin.

PC *at diagnosis, nearly 50% had diabetes and nearly 40% had impaired fasting glucose*

(Pannalaet al, Gastroenterology 2008)

- Total Pancreatectomy – life long insulin. Diabetes team input regularly, training patient on self care with insulin. Managing hypo education. Monitor Bms up to 10 times per day.

- Distal Pancreatectomy - 70% of β-cell mass resides in the body and tail, thereby DP may potentially have worse outcomes for endocrine function.

Principles of Management	Management Strategies
Prevent: • Hypoglycemia • Hyperglycemia • Exacerbation of malnutrition • Co-morbidities associated with diabetes (e.g. retinopathy, renal disease)	• Do not skip meals • Take small, frequent meals • Measure glucose levels frequently, particularly after physical activity, and if diet is poor • Avoid alcohol • Ensure adequacy of enzyme therapy • Minimize high-sugar/ high-glycemic index food or fluids • Consider a diary to record diet, glucose levels, enzymes, exercise, at least until acceptable glucose control is maintained • Dietitian assessment/ monitoring

Dugan and Conlon 2013

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