PAIN AND SIDE EFFECT MANAGEMENT

UNDERSTANDING PANCREATIC CANCER

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CENTER FOR PAIN AND SUPPORTIVE CARE
CPSC LOBBY

EXAM ROOM AT CPSC
Symptoms are variable and vague
- Nausea with or without vomiting
- Decreased appetite
- Feels like ulcer, heart burn
- Constipation
- Bloating
- Belching and Flatulence
- Weight loss
- Fatigue, lethargy

WHY IS PANCREATIC CANCER SO HARD TO DIAGNOSIS?
INNERVATION: CELIAC PLEXUS
The first Nervous system: sea cucumbers and millipedes have very primitive nerves like this system. 

- Fight or flight.....If you were a cave man being chased by a Saber Tooth Cat.....
  - Blood shunts to your brain and muscles
  - GI tract stops
  - You wouldn’t want to have to poop while you are running for your life
  - Bladder contraction is weak

SYMPATHETIC NERVOUS SYSTEM

Pancreatic mass

SO HOW DOES CAVE MAN EVOLUTION EFFECT ME?
SIDE EFFECTS

- Pain – ‘the knife’
- Early satiety and bloating
- Nausea, with or without vomiting
- Increased GI gas
- Constipation
- Diarrhea
- Insomnia
- Malaise and Fatigue

PAIN

- Location:
  - Abdominal pain radiating through or around to the back
  - Back pain radiating through or around to the front underneath the ribs
- Character:
  - Knife-like
  - Searing, twisting
- Pain Medications:
  - Help the pain but make the symptoms worse
  - Rarely make the pain go away
- Collateral Damage
  - Increased adrenaline production increases anxiety and causes panic attacks as well as worsening pain and nausea and vomiting
EARLY SATIETY AND BLOATING

- Location:
  - Stomach

- Character:
  - Hungry but can only eat a few bites

- Mechanism:
  - Delayed gastric emptying
  - Pain with eating

- Treatment:
  - Small, frequent meals
  - Laxatives to stimulate evacuation
  - Pain medication, opiates or benodiazapines

- Collateral Damage:
  - Weight loss
  - Nausea with vomiting
  - Malnutrition

NAUSEA, WITH OR WITHOUT VOMITING

- Mechanism:
  - Due to poor motility of the stomach and bowel
  - Increased norepinephrine results in nausea
  - Mass effect may cause temporary or long-term small bowel obstruction

- Treatment:
  - Minimize medications which effect gut function
  - Pro-motility agents, such as metoclopramide or magnesium, laxatives
  - Anti-emetics: Ondansetron, or thiazide derivatives
  - If reflux with nausea, acid reducer for comfort
INCREASED GI GAS

- **Mechanism**
  - Secondary to poor gut motility and air swallowing
- **Treatment**
  - Avoid chewing gum, carbonated beverages, and drinking through straws
  - Simethicone: 320 mg three times daily
  - Avoid milk products if diarrhea cycles are frequent or if lactose intolerant
  - Laxatives, if constipated to decrease gut transit time and promote forward propulsion
  - Increase ambulation to be able to expel gas and minimize bloating

CONSTIPATION

- **Mechanism:**
  - Poor gut motility from norepinephrine
- **Treatment**
  - Stool softeners and laxatives
- **Collateral Damage**
  - Increased gas and worsening nausea and vomiting if untreated
DIARRHEA

- Mechanism:
  - Fluctuating levels of norepinephrine with ingestion of food
  - May act like dumping syndrome
- Treatment:
  - Small, frequent meals
  - Low glycemic index meals
  - Sometimes laxatives help because a bolus of food is like wet cement and the bowel will secrete fluid to try to make it pass
  - IBS medications, such as Amitiza
- Collateral Damage:
  - Increased abdominal pain and distribution out of the upper abdomen to the whole abdomen

INSOMNIA

- Mechanism:
  - Increased norepinephrine
  - CANCER
  - Brain will not shut off
- Treatment:
  - Benzodiazepines are bad long-term
  - Tricyclic antidepressants help pain, appetite, and promote sleep
  - Muscle relaxants: tizanidine works as an anti-adrenaline in the spinal cord and makes you tired
  - Anti-psychotics: if your brain will not shut off, ok for short-term use, challenging if you have secondary diabetes
- Collateral Damage:
  - Increased anxiety
  - Pain
MALAISE AND FATIGUE

- **Mechanism:**
  - Malnutrition with muscle wasting
  - Insomnia
  - Hypogonadism

- **Treatment:**
  - Exercise: 30 minutes daily
  - Increase caloric and protein intake
  - Improve sleep pattern
  - Restorative exercise such as yoga, Thai chi, or qi chong

- **Collateral Damage:**
  - Further physical deterioration

PANCREATIC PACKAGE TREATMENT

- **Pain:**
  - Opioids in small doses, tricyclic antidepressants, SSRI antidepressants such as citalopram for anxiolysis
  - If opiates compromise bowel function, mental status, or appetite, consider celiac plexus neurolysis or spinal delivery of medications

- **Appetite, Early Satiety, Nausea and Vomiting**
  - Small, frequent meals, frequent bowel movements, and control gas bloating
  - Anti-emetics to prevent vomiting

- **Constipation**
  - Small, frequent meals
  - Stool softeners and laxatives

- **Insomnia, Malaise and Fatigue**
  - Regular daily exercise
  - Relaxation techniques to increase parasympathetic tone and healthy sleep hygiene

- Symptoms can be controlled and managed, very difficult to abolish
QUESTIONS?

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