

## **Cholestasis and reduced exocrine pancreas function in pancreatic cancer patient**

Female, age 74, with a history of hypertension. Presents epigastric pain, anorexia, and nausea at the end of 2020. CT shows a retroperitoneal mass close to the pancreas. Bone marrow aspiration and biopsy revealed a low malignant B-cell lymphoma, and no specific treatment is given.

Symptoms are persisting and a new CT scan shows slight progress why biopsy of lymph nodes at the hepatoduodenal ligament is performed in March 2021. Biopsy from one nodule confirms lymphoma and two nodes present metastasis from adenocarcinoma, why pancreatic cancer is assumed to be the most probable diagnosis.

Palliative chemotherapy is given in two regimens but is canceled due to progress. The patient attends the ER in October with fever, cholestasis, and several weeks of diarrhea. Antibiotic treatment is given and percutaneous transhepatic drainage with a stent is performed, with good results.

At discharge from the hospital diarrhea has decreased but persists. During the stay at the hospital pain treatment is adjusted to 90 mg Oxycodone a day and Moventig 25 mg (naloxegol) and sterculia gum are recommended. A week after the discharge the patient describes mixed stool quality with main diarrhea, frequent stools mostly during daytime, urgency, and steatorrhea.

Pancreatic enzyme replacement therapy (PERT) is now initiated with 50000 units at every main meal and will be evaluated shortly.

1. Give pros and cons for considering an internal bile stent to a patient like this?
2. Is your answer the same if the only option is a percutaneous transhepatic stent?
3. Reflect on the use of PERT. When do you consider using PERT?
4. Is pancreatic exocrine insufficiency common in pancreatic cancer patients?

## **Inoperable ileus**

Woman 52 years old

Lives alone in an apartment. 2 children in their 20's.

Cancer in coecum with perforation -- 2017

Peritoneal carcinomatosis- HIPEC 2019- Surgical complication with injury of the bladder - resulting in bilateral nephrostomy and Hartmann's procedure.

Gastroscopy Nov - 20 shows an ulcer. Biopsy - adenocarcinoma

Ileus again in May, laparotomy showed total adherence of the bowel. Got a new loop ostomy.

Later same month: No feces production from the ostomy.

CT scan again shows ileus of the small intestine.

Lots of nausea and abdominal pain - got a NG tube and opioids both sc and transdermal. Tried several Small Bowel Follow-through with gastrografin without effect.

Pain in the epigastrium. Treated with Somac 40-80 mg /day and Gaviscon.

Pain treatment: Fentanyl transdermal, morphine and oxycodone iv, sc Catapresan (clonidine), and EDA

Comprehensive cancer in the abdomen and prior massive surgery makes further surgery, not an option.

Sc "Ileus pump" is started with haloperidol, ketamine, midazolam, and morphine.

Another pump with scopolamine.

Ondansetron and diazepam as needed

A week later a lot of bile-colored fluid comes from the ostomy and the state of ileus is cured.

Later the same day scopolamine, Catapresan (clonidine), and EDA is deprescribed

1. What is your approach to a patient presenting with an inoperable ileus?
2. What diagnostics are in place, first-line treatment? How do you proceed?
3. What do you typically put in your "ileus pump?"

## **Fluids and nutrition for a patient with ovarian cancer and ileus**

The patient is a woman in her sixties with metastatic ovary cancer. She lives alone in an immaculately clean apartment – she cares about appearances. Her husband is elderly and lives in a residential home, where she visits every day. They have no children.

At first contact with the team, she is hospitalized after yet another bout of partial bowel obstruction. Her pain is controlled, she drinks fluids and gets artificial nutrition every other day. She has a colostomy after her initial surgery, and she is very thin. Whenever she tries eating anything she has colicky pains.

The next time we see her, on an acute call, she is at home. The night has been awful with pains and vomiting. Her belly is bloated, and her bowel sounds sharp. All medication was changed to the intravenous route, and she was given Octreotide. Parenteral nutrition was switched for glucose, and we planned for a new visit the next day. Then she was better, and her bowel sounds normal. There was fluid in the colostomy bag. We gave her Ringer-Acetate in the daytime and glucose at night and restarted Primperan.

Things remained calm for a few weeks. She went back to parenteral nutrition every other day and no Octreotide. She drank bouillon and visited her husband daily.

Then her pain and vomiting returned. We stopped Primperan and added Octreotide and Buscopan. She was cautioned against taking too much orally. She wanted Ringer-Acetate instead of drinking as was given. A new plateau was reached. Sometimes she vomited but overall Haloperidol gave good symptom control. Her brother was planning a visit from overseas. She was panicky – “I must be well for the visit”. They did not know, and she wanted me to warn them of her state. She died the day after they had left.

1. Discuss the role of iv fluids in a palliative cancer patient with an inoperable ileus
2. Discuss the role of iv nutrition in a palliative cancer patient with an inoperable ileus
  
3. What do you recommend as treatment against colicky pain in inoperable ileus?
4. What do you recommend as treatment against nausea in inoperable ileus?
5. What do you recommend as medication to reduce vomiting in inoperable ileus?
  - a. (When do you use butylscopolamine, other anticholinergic drugs, and octreotide?)
  
6. Do you have literature or maybe guidelines to support your recommendations under questions 1-5?

## Cardia cancer and hematemesis

Man 63 years old, mainly in good health.

Diagnosed with cardia cancer in august 2019. Considered inoperable. Given palliative chemotherapy and radiotherapy due to dysphagia.

In July admitted to the surgical department with melena and hematemesis. CT showed significant progression of tumor and metastases. Ended oncological treatment, received PICC line (central IV catheter) and esophageal stent.

Admitted to hospice for symptom relief and care. Symptoms are nausea, vomiting, and poor appetite. ECOG 2.

Medication: Pantoprazole x 2, Metoclopramide x 3, Paraffin mixt 10 ml x 1, Natriumpicosulfat 10 dr x 2, Cyklokapron (tranexamic acid) 500 mg x 1 vesp, Paracet x 3 og Fentanyl patch 25 mcg/time.

A few weeks later admitted to a hospital palliative care unit due to increasing pain and a tendency to bloody vomiting at night. Recommended high head position, smaller meals, and Metoclopramide. Hb 8,0. He got a blood transfusion with no effect on his general condition.

Medication changes: Paraffin mixt 10 ml x 2, Natriumpicosulfat 5 dr x 1, Cyklokapron 1000 mg x 2, Fentanyl patch 37 mcg/hour.

A month later at the nursing home, the patient has a high fever of 39,4 and dyspnea. Hb 7,6. Cefotaxime is started on suspicion of aspiration pneumonia.

A few days later the patient has increasing hematemesis. The patient wants to end all possible life-prolonging medication. Starting haloperidol sc, midazolam sc at night. (Central IV line was clogged)

A few days later further increased hematemesis. Also increasing pain, nausea, and anxiety. Restarted pantoprazole and Cyklokapron iv and syringe driver with morphine 70 mg and midazolam 3 mg /24 timer. Zyprexa was suggested

1. Discuss relevant diagnostics and treatment suggestions for hematemesis for such a patient at the point when he first had hematemesis
  - a. When do you find it relevant to contact the gastroenterologist, radiologist, or oncologist to control hematemesis?
2. What medications do you suggest when a patient has tumor-related bleeding in the gastrointestinal tract and interventions are not possible
  - a. Do you use PPI? Does it work?
  - b. Do you use Cyklokapron (tranexamic acid)? Does it work?
  - c. Do you suggest blood transfusions? Does it work?

- d. Do you suggest octreotide? Does it work?
- 3. Do you have any evidence in the literature or guidelines to support your answers above?
- 4. How do you plan ahead when a patient is at risk of a major bleeding episode?