CASE STUDY B: PEPTIC ULCER AND PERITONITIS

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Advanced Disease Processes & Treatment

HSCI 840DL 2021FA

Case History

76-year-old female was admitted to the emergency room presenting with the following signs and symptoms:

- Severe generalized abdominal pain
- Vomiting

Six hours later, the following symptoms developed:

- Decreased blood pressure
- Rapid and thready pulse

Case History

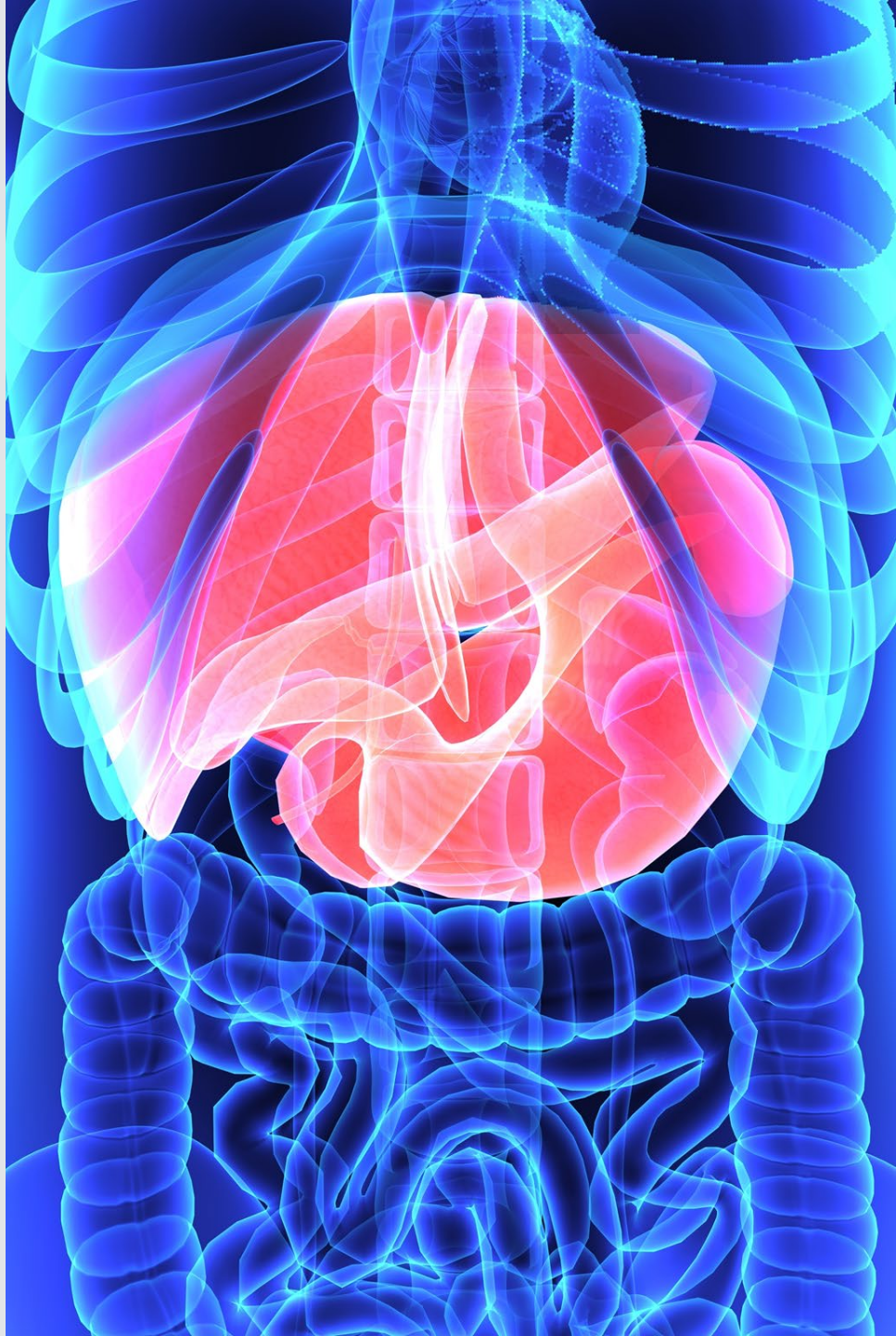
Exploratory abdominal surgery was performed

During surgery, the following findings were discovered:

- Perforated gastric ulcer
- Peritonitis

Post surgery, the following signs and symptoms were present:

- Absence of bowel sounds
- Distended abdomen



Diagnosis

I diagnosed this patient with a perforated gastric ulcer and peritonitis based upon the following signs and symptoms:

- ✓ **Generalized abdominal pain:** Ms. X presented with generalized abdominal pain that was severe in nature. Pain in the abdominal area that occurs suddenly, is severe, and generalized is a sign of peritonitis.
- ✓ **Vomiting:** Ms. X was vomiting which can be a sign of peptic ulcer or peritonitis.
- ✓ **Decreased blood pressure:** Ms. X experienced a drop in blood pressure which is a symptom of dehydration and hypovolemia that may occur when a patient has peritonitis.
- ✓ **Rapid pulse:** Ms. X experienced tachycardia, a symptom of dehydration or hypovolemia occurring during peritonitis (VanMeter & Hubert, 2014).

Diagnosis

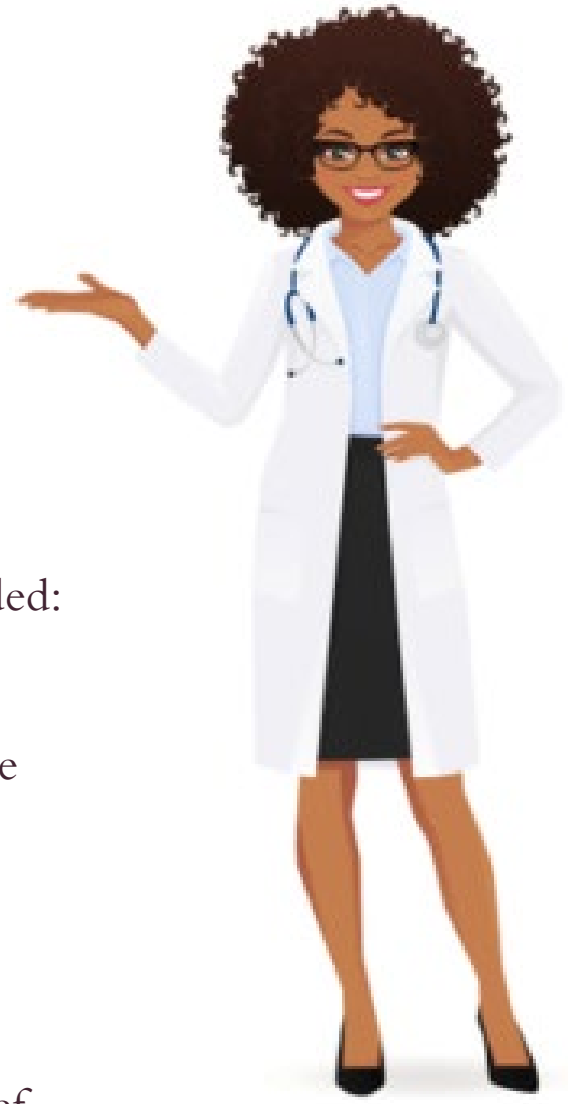
After surgery, no bowel sounds were heard, and Ms. X's abdomen was distended.

- ✓ **Lack of bowel sounds:** The absence of bowel sounds indicates that Ms. X has experienced paralytic ileus and secondary obstruction.
- ✓ The peritonitis was likely caused by a peptic ulcer that eroded through the stomach wall, which allowed for chyme to invade the peritoneal cavity. The entry of chyme into the peritoneal cavity caused chemical peritonitis, and inflammation of the peritoneal membranes in addition to inflammation of other abdominal cavity structures.
- ✓ The increased permeability of the intestinal wall due to inflammation, allowed for the entry of bacteria and toxins into the peritoneal cavity, which can cause bacterial peritonitis (VanMeter & Hubert, 2014).

Diagnosis

- ✓ **Hypovolemic shock** - Ms. X also experienced symptoms of hypovolemic shock. This could have been due to loss of fluids caused by vomiting. She may have also experienced internal bleeding due to the ulcer since perforation had occurred (VanMeter & Hubert, 2014).

Treatment Plan



I would prescribe the following treatment regimen for Ms. X:

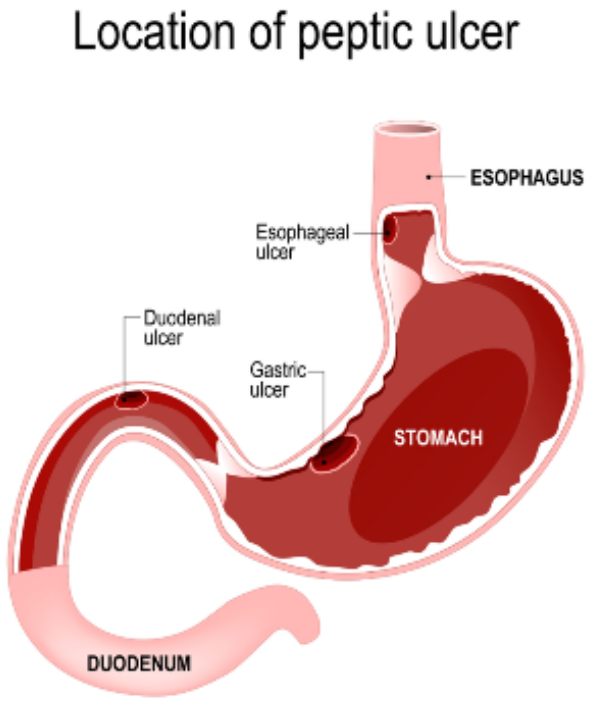
- ✓ **Exploratory abdominal surgery** to determine the source of Ms. X's pain. Once the diagnosis of perforated gastric ulcer was made, the following treatments are recommended:
- ✓ Treatment of both the ulcer and peritonitis is required in this case.
- ✓ I would prescribe an **antimicrobial drug** to destroy any bacteria like *H. pylori*. Possible antimicrobial drugs include clarithromycin, tetracycline, metronidazole, and bismuth subsalicylate.
- ✓ I would also prescribe an **H_2 receptor-antagonist, or a proton pump inhibitor** to reduce gastric secretions to prevent further damage to the intestinal wall.
- ✓ I may also prescribe a **coating agent such as sucralfate or an antacid** to provide relief from symptoms caused by the ulcer (VanMeter & Hubert, 2014).

Treatment Plan

- ✓ I would recommend **dietary adjustments** such as the elimination or reduction of coffee, or any foods that may cause irritation to the patient after consumption.
- ✓ Since Ms. X has a perforated ulcer, surgery such as **gastrectomy or pyloroplasty** may be required if other treatments are not effective, and the site of infection will need to be drained. Vagotomy may not be necessary as medications to treat peptic ulcer are very effective in managing symptoms (Kapoor, 2021;VanMeter & Hubert, 2014).
- ✓ Ms. X may require **nasogastric suction** to relieve abdominal distention and paralytic ileus (VanMeter & Hubert, 2014).
- ✓ IV fluids would also be prescribed to prevent the loss of electrolytes and body fluids (VanMeter & Hubert, 2014).

Common Causes of Peptic Ulcer

- Prolonged use of non-steroidal anti-inflammatory drugs (NSAIDs) such aspirin and ibuprofen
- Infection caused by Helicobacter pylori (*H. pylori*) bacteria
- Rare cancerous and non-cancerous tumors located in the stomach, pancreas, or duodenum
- In some cases, peptic ulcers can be caused by both H. pylori and NSAIDs (NIDDK, 2014)



Tumors and Peptic Ulcers – Zollinger-Ellison Syndrome

When one or more cancerous or non-cancerous tumors develop in the pancreas or duodenum, a rare condition called Zollinger-Ellison syndrome can develop.

- The tumor releases large amounts of the hormone gastrin. Gastrin causes the stomach to make large amounts of acid, leading to the formation of ulcers in the duodenum and upper intestine (NIDDK, 2021.).
- Tumors that cause Zollinger-Ellison syndrome are usually not cancerous (Johns Hopkins Medicine, 2021).
- Proton pumps may be prescribed to minimize the overproduction of acid in the stomach. Surgery may be needed in more severe cases (Johns Hopkins Medicine, 2021).

Questions

Why does treatment for Ms. X require multiple therapies?

Describe how hemorrhage may develop from an ulcer, and how this may lead to shock in a patient.

References

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