

# Cholecystitis cholelithiasis

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PATHOPHYSIOLOGY Medical Diagnosis:

Cholecystitis/Cholelithiasis Nursing Diagnosis: Activity intolerance r/t

laparoscopic abdominal incisions AEB SOB during ambulation, increased respirations at 38, O<sub>2</sub> sat 80% room air after walking 50 ft. Normal

Physiology: The gallbladder is situated inferior to the liver. The gallbladder is a structure that functions as a storage space for bile that is produced in the liver. The liver produces and secretes bile into the gallbladder from the right and left hepatic duct join together to become the common hepatic duct then into the gallbladder via the cystic duct.

During the digestion of fatty food, the gallbladder releases bile that passes through the common bile duct and into the duodenum through the Sphincter of Oddi to break down fat into fatty acids to be absorbed by the small intestine to be used as energy and storage of energy for metabolic needs of the body. Pathophysiology: Cholecystitis, and inflammation of the gallbladder, is a condition which can be caused by cholelithiasis, the formation of gallstones. Most stones are formed of cholesterol. Excess cholesterol in bile is associated with obesity, high cholesterol diet and drugs that are prescribed to lower cholesterol levels.

The excess saturation of cholesterol can lead to the formation of stones. This client had an elevated LDL and low HDL levels that do state the client had excess cholesterol. Biliary stasis, which is slow emptying of the gallbladder, can also cause the formation of stones. An inflammation of the gallbladder allows for excess water and bile salt reabsorption which can also lead to the formation of stones. This client did have wall thickening and distention of the

gallbladder that indicates a inflammation of the gallbladder over a period of time.

This is the second time the client came to the ER with pain in a 6 week period. Potential Complications: If a gallstone migrates out of the gallbladder into the ducts, it can lead to cholangitis which is an inflammation of the duct. Obstruction of the common bile duct may cause bile reflux into the liver causing pain, jaundice, and liver damage. The clients ALT, liver function test was elevated indicating liver disease process and in this clients case it is due to the back-up of bile into the liver from obstruction in the common bile duct.

The client can also have pancreatitis due to the inability of the pancreas to secrete digestive enzymes through the pancreatic duct. The client had mild pancreatitis confirmed by CT scan. Complications of the cholecystitis/cholelithiasis can lead to a collection of infected fluid within the gallbladder, gangrene, and perforation resulting in peritonitis or abscess formation. A fistula into adjacent organs can for such as in the duodenum the colon or stomach. During the laparoscopic cholecystectomy, the client's gallbladder was noted with gangrene but no perforation, peritonitis, fistula or abscess formation was noted.

If this condition goes untreated, death can result from hemorrhage, peritonitis, hypovolemic shock, septicemia and septic shock. The client did not die because treatment and surgery was performed. Nursing Interventions & Rationales: Independent: 1. Ambulate with client 1: 1 assist. The client should not ambulate alone. The client is at risk for falls for injury to do her activity intolerance for SOB and decreased O2 sats. This will ensure the

client does not fall and if she does become weak or unstable it will reduce the injury. . Place the client in semi-fowler during resting time in bed. This will decrease orthopnea and help the client breath better by decreasing pressure on the diaphragm allowing for better expansion of the lungs. 3. Monitor respiratory status and auscultate lung sound every 4 hours. This will help assess interventions and any changes needed for their respiratory status. Dependent: 4. Monitor and assess clients client's O2 sat level and administer O2 at 2L NC per physician's orders. The clients O2 Sat had been at 80% room air nd after activity with O2. This will help monitor client needs and evaluate the need for any changes this client may need for a decrease or increase in O2 delivery. 5. Administer morphine sulfate 1-5 mg IV push prn q2h over 2 minutes. Administering pain meds can help decrease pain associated with the client needing to cough and deep breath and will help the client ambulate. Although the client has not indicated much pain, giving prior to activity will help the client tolerate ambulation, cough and deep breath and spirometer. 6.

Administer Cefoxitin 1 gm in 100mg/NaCl 0.9% over 1 hr q8h per physician's orders. The administration of antibiotics will reduce the client risk for peritonitis from gangrene of the gallbladder and risk of infection form the surgery. This will also help with healing of the clients mild pancreatitis noted on CT scan Interdependent: 7. Collaborate with dietician to meet with the client regarding diet. In a client with the removal of the gallbladder, the client needs to be educated on the types of food to avoid after surgery.

This will help identify what types of foods the client can continue to enjoy and those that will facilitate abdominal problems post cholecystectomy. Ensuring the family is also involved when the dietician is present will help increase the likelihood of adhering to a new diet holding the client accountable for food choices. 8. Collaborate with respiratory therapy to assess the need for respiratory assistance such as the need for nebulizer treatment or the need for portable O<sub>2</sub> for ambulatory purposes. The client's O<sub>2</sub> quickly drops after taking D/C of O<sub>2</sub>. 9.

Collaborate with occupational therapy to assess the ability for the client to go home. The client is an elderly lady and may need to be evaluated prior to discharge to assess ADL's since she lives on her own. This will ensure the client can safely return home or may need to be transferred to rehab prior to going home and educate the client on throw rugs, shower use and other in home dangers that elderly clients are at risk for. Client Teaching: Instruct the client on the need to cough and deep breath and spirometry. The client has had SOB post op and decreased O<sub>2</sub> saturation.

The client has atelectasis in her right upper lobe with diminished lung sounds throughout with decreased expiratory effort. I educated the client on coughing and deep breathing every hour x10 and how to use the pillow for splinting her abdomen due to abdominal pain post operatively. Client understood and demonstrated this very well and prior to end of shift I assessed the client and had her demonstrate what I had taught her prior to leaving and she performed properly and also stated she had been doing it every hour as instructed. Textbook Signs & Symptoms . Pain, abrupt onset,

severe and steady 2. Pain radiate to the back, right scapula and shoulder lasting from 12-18 hours 3. Nausea, vomiting and anorexia 4. Chills and fever 5. Abdominal guarding Risk Factors 1. Female over age of 65 2. Family history 3. Native American; northern European heritage 4. Obesity 5. Hyperlipidemia 6. Use of oral contraceptives 7. Biliary stasis: pregnancy, fasting or prolonged parenteral nutrition 8. Diseases or condition: DM; cirrhosis; ileal disease or resection; sickle cell anemia

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