ALASKA COLORECTAL SURGERY

Cholecystectomy

Cholecystectomy is the operation for removal of the gallbladder. Traditionally, the surgery is carried out through an incision in the right side of the upper abdomen. More recently the surgery has been carried out through a laparoscope employing 3 or 4 small incisions.

Pathology:
Stones may form in the gall bladder, which block the flow of bile resulting in pain in the right upper abdomen. Gallstones can lodge in the terminal part of the common bile duct that opens into the small intestine. Here the stones can also block the flow of pancreatic juice from the pancreatic duct that joins the common bile duct. This may result n a severe inflammation of the pancreas called pancreatitis. The exact cause of gall bladder disease is unknown. Some studies suggest that gallstones may be related to how the body handles cholesterol and bile acids that are synthesized in the liver and stored in the gall bladder. While some people may have no symptoms even in the presence of gallstones, others may have gallbladder problems even in the absence of stones.

Procedure for Open Cholecystectomy:

- Removal of the gallbladder is classically carried out through and incision in the right upper abdomen. This procedure is called an open cholecystectomy.
- The gallbladder is directly exposed and dissected off the liver and surrounding structures and removed.
- If indicated, a dye study of the common bile duct can be performed to determine the presence of stones in the bile duct. When present, open exploration of the common bile duct can be performed.
- This operation is now employed in cases where it may be dangerous or difficult to perform a laparoscopic cholecystectomy, such as technical difficulties due to dense abdominal adhesions from previous surgery, highly inflamed and adherent gallbladder, or when the anatomy of the gallbladder is not clearly visible through a laparoscope.
- The recovery period and hospital stay is usually 4-5 days.
- In some cases, it may not be possible to remove the gallbladder through a laparoscope. In these cases, this operation is usually transformed into an open cholecystectomy. In some cases, gallstones that are lodged in the common bile duct causing obstruction may be removed by exploration of the common bile duct during open surgery.

Procedure for Laparoscopic Cholecystectomy:

- Today, the standard of care is usually a laparoscopic cholecystectomy.

- The laparoscope is a long tube with lenses at one end that are connected by fiber optics to a small television camera at the other. The fiber optics also carries light into the abdomen from a special light source. This system allows the surgeon to see and operate within the abdomen.
- The procedure is usually performed under general anesthesia.
- Antibiotics are given intravenously prior to the surgery to reduce the rate of infection.
- After anesthesia is begun, the skin is prepared with antiseptic solution and 3-4 small incisions (called port sites) are made on the abdominal wall.
- A special needle (Veress needle) is inserted into the abdomen to inflate the abdomen with carbon dioxide gas. This distends the abdomen and creates space to insert the instruments.
- The laparoscope and laparoscopic instruments with long handles are inserted through the incisions into the abdomen. The entire operation is then performed while viewing the organs magnified on a television screen.
- The gallbladder is dissected of the surrounding structures. The cystic duct that attaches the gallbladder to the common bile duct is dissected and divided between metal clips.
- In some cases, a tiny catheter may be inserted into the cystic duct to inject dye and take X-rays to visualize any stones that may be blocking the common bile duct. If common bile duct stones are present, they may be removed with laparoscopic common bile duct exploration, by opening up the abdomen and exploring the duct, or by ERCP (see below).
- After the cystic duct is divided, the gallbladder is further dissected off the liver bed and a tny artery that supplies blood to the gallbladder called the cystic artery is divided between metal clips. The gallbladder is then further dissected off the liver avoiding spillage of bile into the abdominal cavity.
- In some cases, the gallbladder is shrunk by suctioning out bile. The gallbladder is then removed through one of the ports in the abdominal wall and the tiny incisions in the abdominal wall are closed after removing any gas left in the abdominal cavity. When there is spillage of bile, the local abdominal cavity is thoroughly cleansed with saline solution, and a small drain may be left in place. This may be removed the same evening or the next day.

ERCP (not performed in Anchorage**):**

- ERCP (Endoscopic Retrograde Cholangio-Pancreatography) is a procedure usually performed by and endoscopist. This procedure is useful when a stone obstructs the common bile duct.
- The common bile duct is approached using a special endoscope inserted through the stomach and small intestine to the entrance of the common bile duct.
- An X-ray study of the common bile duct is performed using a dye. A papilotomy (cutting the muscle of the lowest portion of the common bile duct) is performed to enlarge the duct opening and facilitate stone removal.
- A small catheter and instruments may be passed into the duct to remove the stones.
- A small catheter will occasionally be left in the duct for temporary drainage.

Complications:

The incidence of complications after cholecystectomy is relatively low.

- Complications of general anesthesia
- Postoperative bleeding
- Injury to the bile ducts or right hepatic artery
- Biliary leak
- Wound infection
- Injury to other abdominal organs
- Pulmonary embolism
- Deep vein thrombosis
- Respiratory or urinary infections

After Surgery:

The patient usually has minimal pain that is well controlled with medication. Frequently, patients are discharged home on the same evening after laparoscopic cholecystectomy or the next morning with a prescription for pain medication. Patient eats a normal light diet on the day after surgery and may be able to return to light work in 3-4 days. It is preferable to avoid exertion and heavy work for several weeks, though one can take regular walks.