



**SNS COLLEGE OF ALLIED HEALTH SCIENCES**

SNS Kalvi Nagar, Coimbatore - 35

Affiliated to Dr MGR Medical University, Chennai



**DEPARTMENT OF RADIOGRAPHY AND IMAGING TECHNOLOGY**

**COURSE NAME : CONTRAST AND SPECIAL RADIOGRAPHY PROCEDURES**

**II YEAR**

**UNIT : 3**

**TOPIC : ENDOSCOPY RETROGRADE CHOLANGIOPANCREATOGRAPHY**

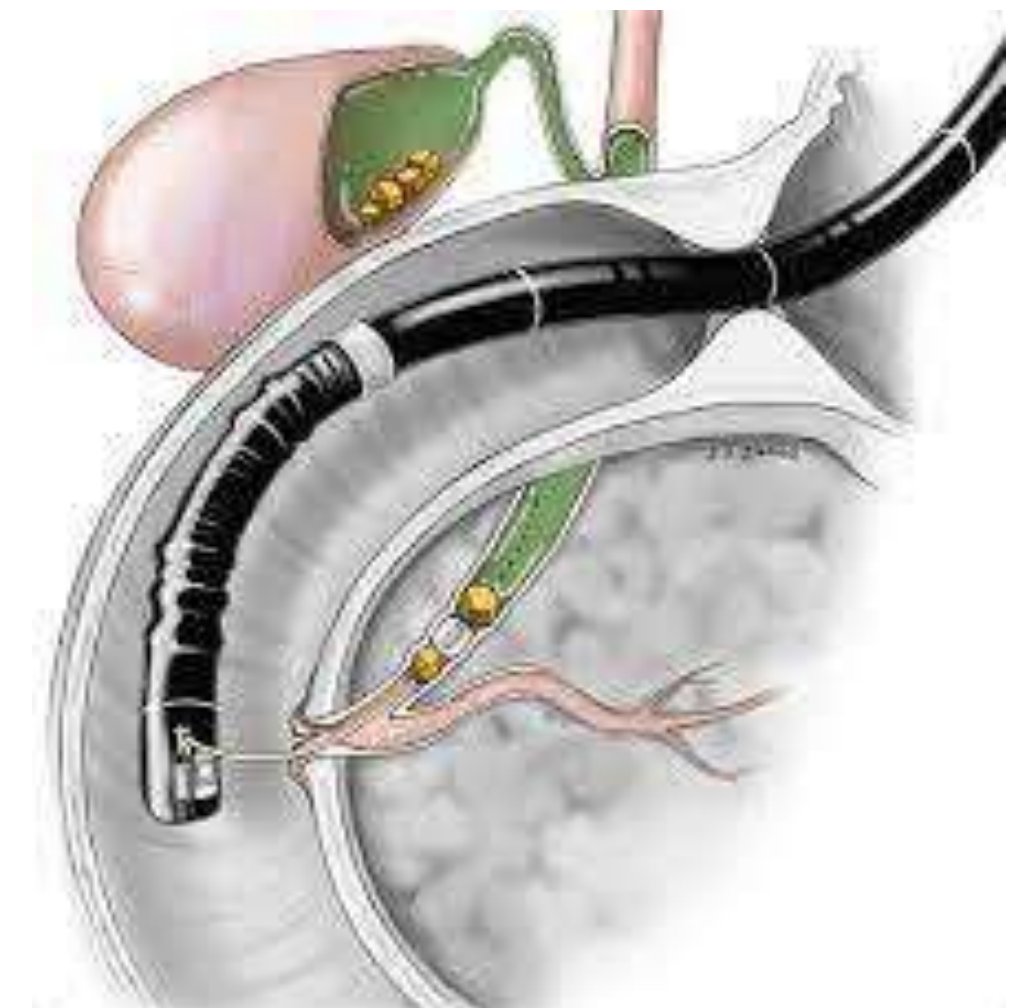
**(ERCP)**



# INTRODUCTION



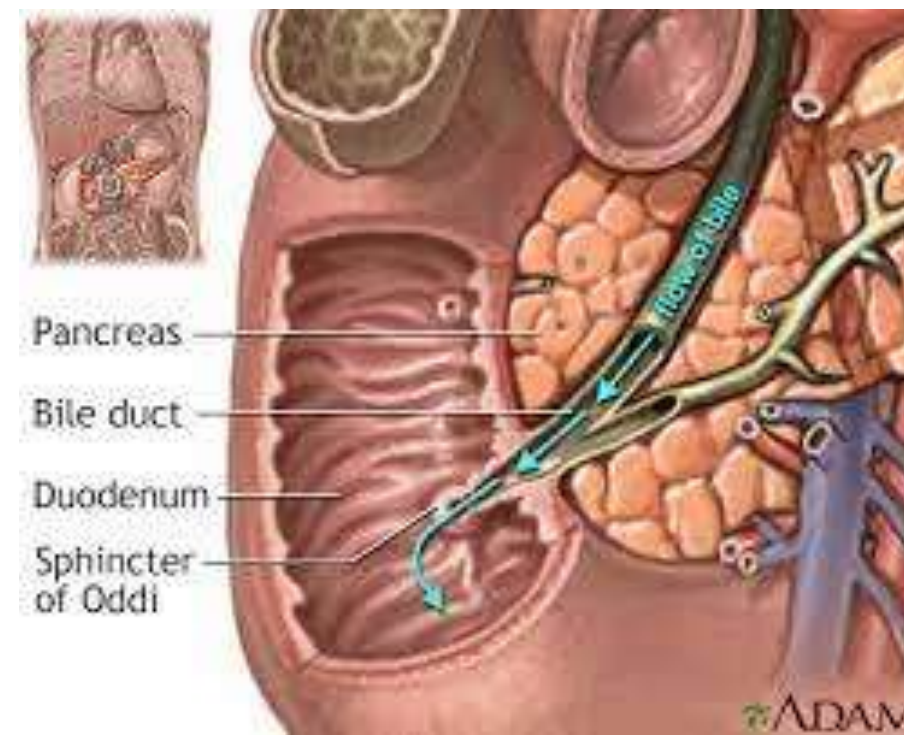
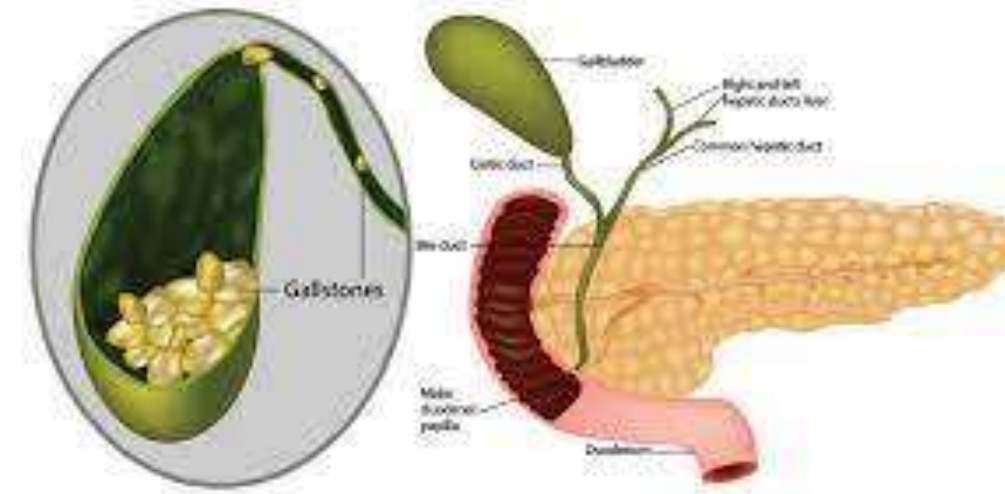
It is a radiologic examination performed by the gastroenterologist under the guidance of the radiologist for the evaluation of the abnormalities, obstruction in the bile duct, pancreatic duct and the papilla of Vater. In endoscopy retrograde cholangiopancreatography (ERCP) examination, both endoscope and fluoroscopy are used. The bile duct stenosis and gallstones can be diagnosed and removed by the ERCP.





# INDICATION

- Gall stone in the bile duct.
- Bile duct obstruction.
- Bile duct stenosis (narrowing).
- Pancreatic duct obstruction or narrowing.
- Spincter of Oddi dysfunction.
- Severe jaundice.

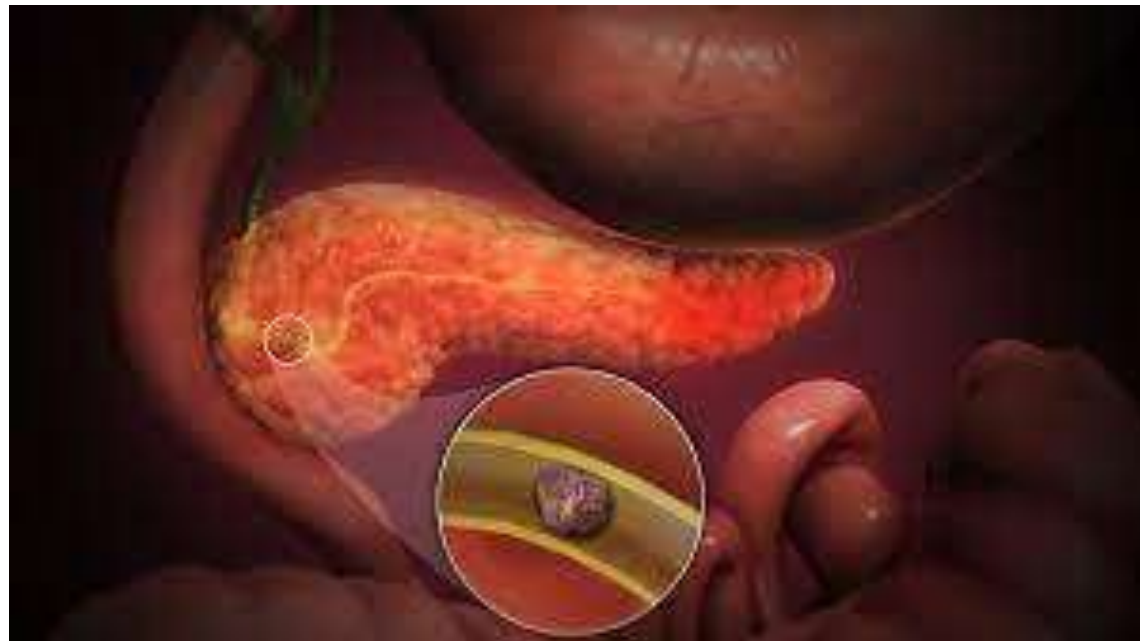




# CONTRAINDICATION



- Esophagus obstruction.
- Acute pancreatitis.
- Suspected duodenal obstruction.
- Severe cardio respiratory disease.
- Hypersensitivity to Iodine.
- Suspected pregnancy.







# PATIENT PREPARATION



- The patient is asked to take a low residue diet for two days prior to the examination and drink clear liquids the day before the examination.
- Fasting may be employed for 6-8 hours. Ask the patient not to eat or drink after midnight.
- Women should inform about any possibility of pregnancy. Pregnant women should not have a radiologic examination because of the risk of radiation exposure to the unborn baby.
- The patient is instructed to remove all the metallic objects and metallic jewelry from the body.





# EQUIPMENT



- The endoscope (fiber optic duodenoscope with camera attached TV monitor).
- Water-soluble iodinated contrast media non-ionic/ionic 20 ml.
- Fluoroscopic unit with spot film device/C arm machine with an image recorder.
- Catheter.
- Local anesthetic spray and jelly.
- Syringe.
- Cannula.
- Gauze.
- Antiseptic solution.
- Suction machine.







# PRE-PROCEDURE INVESTIGATIONS



The pre-procedure investigations must be reviewed by the radiologist, which includes-

- Abdomen x-ray report.
- Blood Urea.
- Blood serum creatinine.
- Chest x-ray report.
- Previous cholangiography report.
- Ultrasonography report and CT and MRI reports.
- Liver function test reports.
- Blood sugar reports.
- Total blood count and bleeding and clotting time.
- History of previous medication, bleeding disorder should be taken by the radiologist.





# PROCEDURE



- On the day of the examination, the technologist should describe the whole procedure to the patient and obtain written consent from the patient, for permission of procedure.
- The patient is asked to remove clothing and wear a hospital gown.
- The patient is placed in the supine position with an empty bladder on the fluoroscopic table.
- An intravenous line is inserted into the patient arm. If necessary, sedative medication is given through line to make the patient relax.
- The Blood pressure, heart rate, respiration rate, oxygen level and other vital signs of the patient should be monitored during the procedure.





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- Then the patient is turned into the prone position. The prone position is easier for intubation in the esophagus and provides more comfort to the gastroenterologist.
- Afterward, the topical anesthetic spray is given to the patient mouth for numbing the area and for preventing gagging during endoscopic insertion.
- After that, the patient is turned into an oblique position. The most preferred position is the left anterior oblique (semi-prone).
- Then the anesthetic gel is applied to the endoscope, and the tube is advanced into the duodenum through the mouth under fluoroscopy guidance. In some cases, the gastroenterologist pumps the air into the stomach, which helps to push the endoscope into the duodenum.
- Subsequently, the gastroenterologist slightly inserts the endoscope at the papilla of Vater (the opening of the common bile duct and pancreatic duct) under the fluoroscopy guidance.



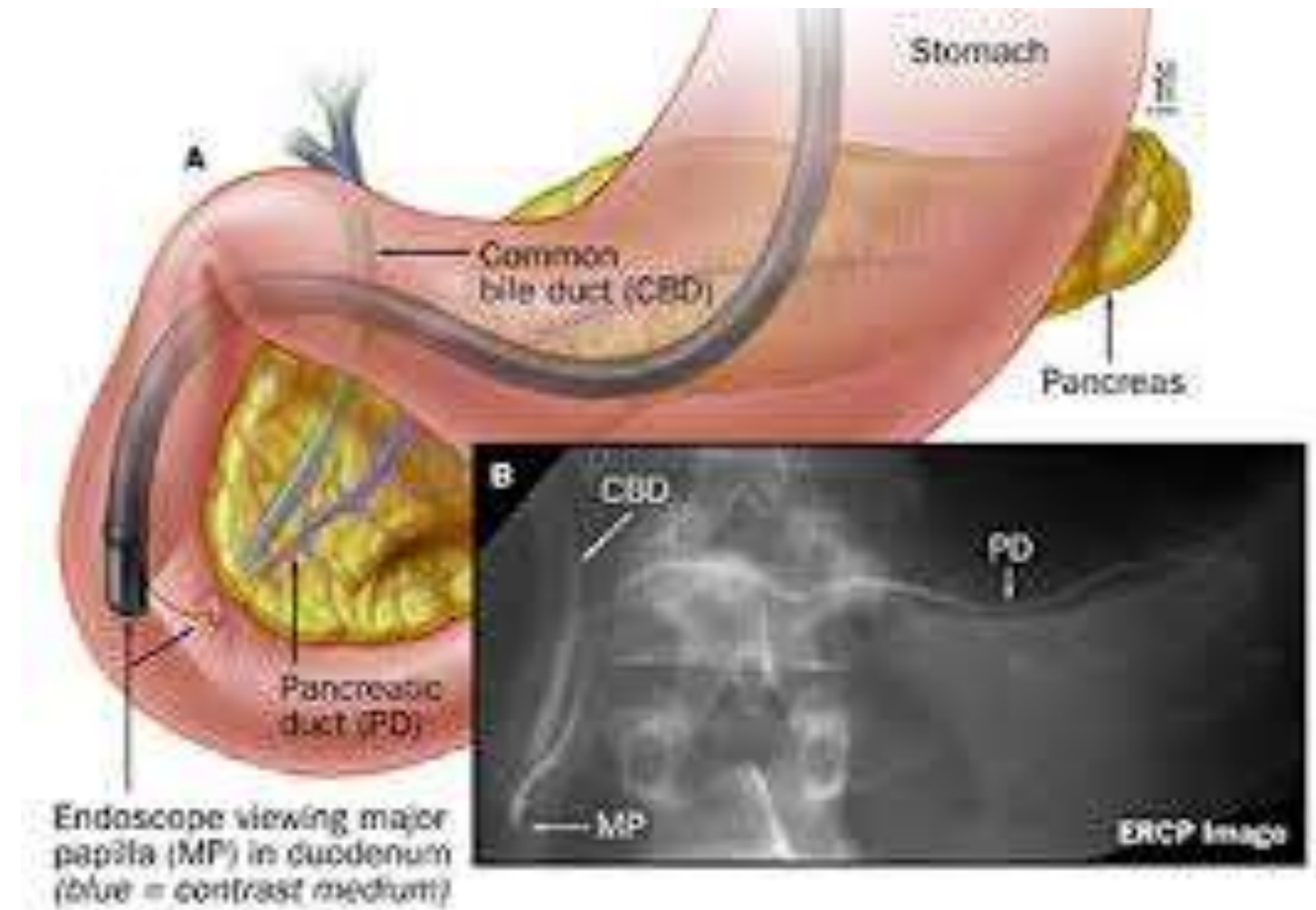
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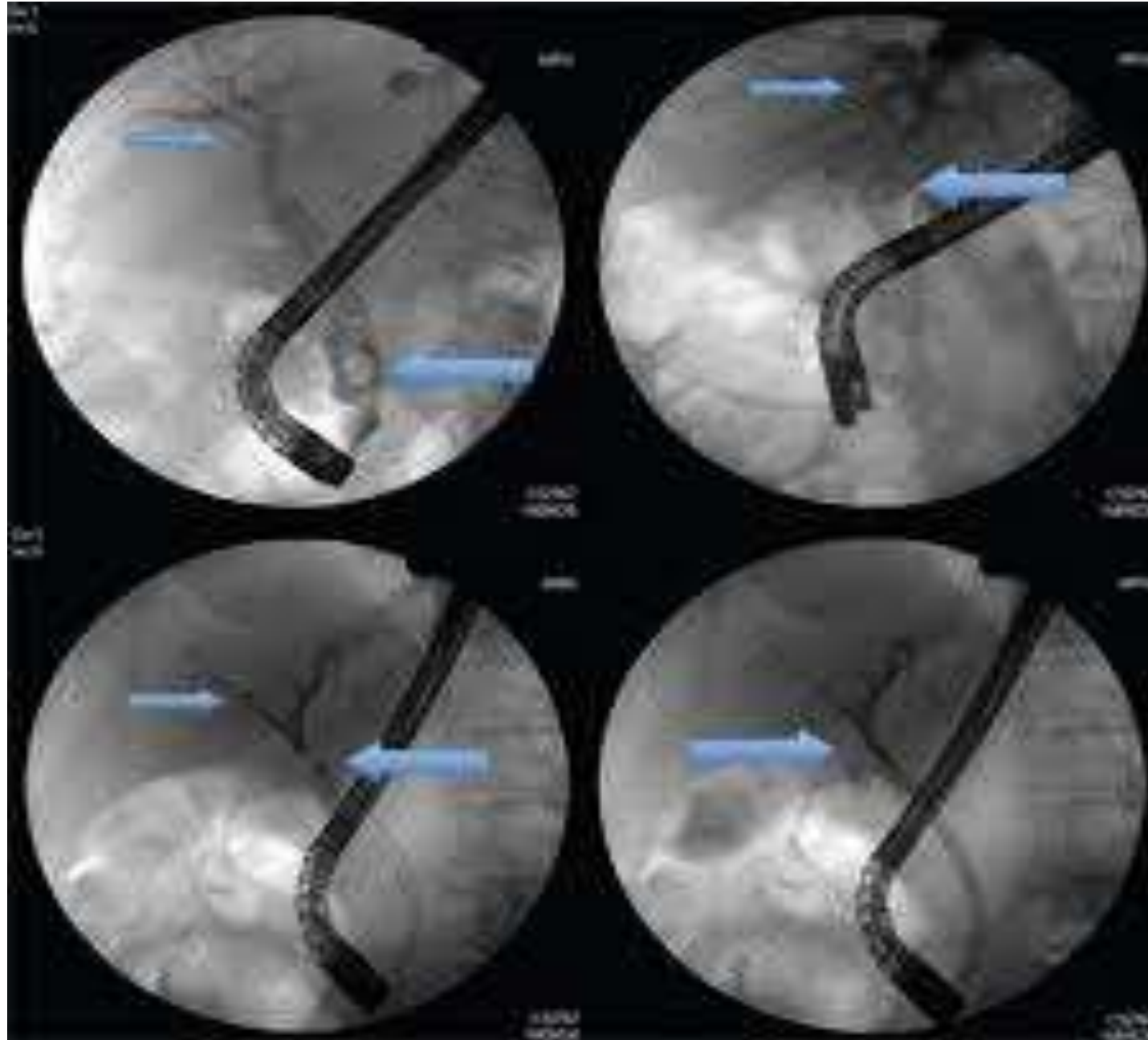
- Whenever the papilla of Vater is located, then a catheter is inserted into the opening of the ampulla under fluoroscopic guidance.
- After placing the catheter into the ampulla, the iodinated contrast media is injected through the catheter.
- The radiologist evaluates the blockages, stones, lesions and strictures under the fluoroscopy. If necessary, the spot films are taken through the spot film device.
- After completion of the examination, the endoscope is removed and several radiographs of the abdomen are taken in various projections like **left anterior oblique, right anterior oblique** and in **supine** position.



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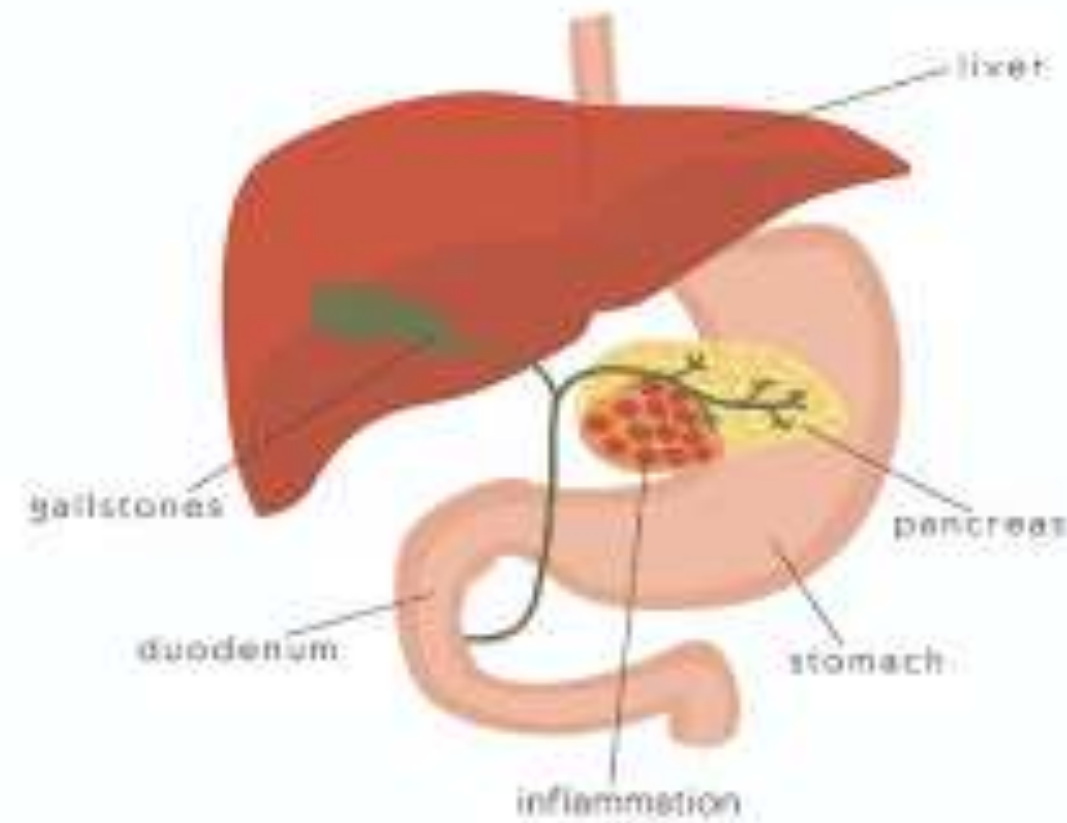


# COMPLICATION



- Pain in abdominal.
- Vomitting.
- Inflammation of pancreas.
- Puncture in the bile duct.

## PANCREATITIS





# AFTERCARE



- The patient should be kept under observation. The blood pressure, heart rate, oxygen level, fluid balance and other vital signs must be monitored.
- If the vital signs are normal, then the patient is allowed to leave the examination room.









**THANK YOU**

