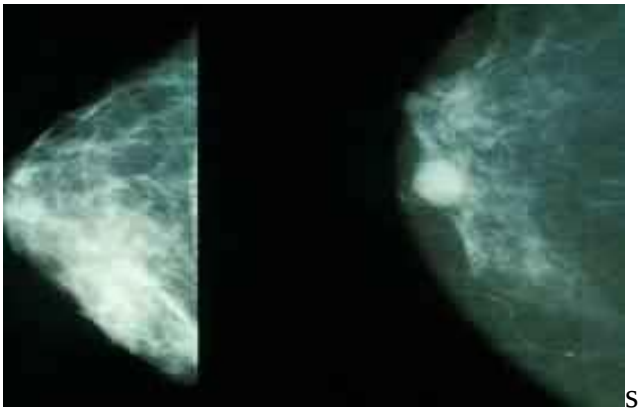 s

Fig: Mammogram

STATION-00

Mammogram

1. In this imaging comment on the followings –
   a) Name the View.
   b) Nipple.
   c) Subcutaneous tissue
   d) Retromammary space.

   A. a) .....
      b) .....
      c) .....
      d) .....

2. Write four findings for your radiological diagnosis.
   A. i) .....
      ii) .....
      iii) .....
      iv) .....

3. What is the radiological diagnosis?
   A .....

4. What diagnostic technique will help you for preoperative decision making in such patient.
   A.....

5. Name 4 biopsy techniques (without making a formal incision) that aid in the diagnosis of lesions identified in such imaging
   A. i)..... .....
      ii).....

Check list

1. 0.5+0.5+0.5+0.5=2
   A. a) Craniocaudal
      b) Not shown/inverted
      c) Not well delineated/obliterated
      d) Not shown
2. Write four findings for your radiological diagnosis. 0.5+0.5+0.5+0.5=2
   A i) An radio opaque mass lesion with uneven margins and different densities
      ii) Presence of micro and macrocalcifications
      iii) Obliterated subcutaneous fat plane
      iv) Inverted or depressed nipple

3. What is the radiological diagnosis? 2
   A. Ca breast

4. What diagnostic technique will help you for pre operative decision making in such patient. 2
   A. FNAC.

5. Name 4 biopsy techniques that aid in diagnosis of mammographic abnormalities without formal incision. 0.5+0.5+0.5+0.5=2
   A. i) Trucut biopsy
      ii) Stereotactic biopsy
      iii) Advanced breast biopsy instrument technique.
      iv) Needle localization breast biopsy.
      v) FNAB

Mammogram

1. What is mammogram?
    - Soft tissue radiographs with high amperage low voltage X-ray taken by placing the breast in direct contact with ultrasensitive film.

2. What are the views of mammogram?
    - Craniocaudal
    - Mediolateral/ oblique

3. What are the indications of mammogram?
    - Suspicious non palpable breast lump in women of >35 years age
    - Screening.
    - Follow up of pt e CA breast treated by mastectomy contralateral breast yearly.
    - Before mastectomy of one breast contralateral breast.
    - Before doing conservative breast surgery
    - For stearotactic biopsy
    - Axillary mets with occult primary.
    - Lobular ca opposite breast

4. What is the contraindication of mammogram?
    - Relative contraindication:
        - Age < 35 years
        - Pregnancy
        - HRT

5. What structures are visible?
    i. Breast disc:
        - Parenchyma
        - Ducts
        - Coopers ligament

    ii. Nipple
    iii. Skin
    iv. Subcutaneous fat plane
    v. Axillary lymph modes

6. What is microcalcification?

- Microcalcification is the calcification of blood vessels (calcification is a positive evidence of malignancy but negative calcification does not exclude malignancy).

7. Can macrocalcification occur in breast?
   - Yes, in fibroadenosis

8. What is tripple assessment?
   - A combination of —
     - Clinical assessment
     - Radiological imaging &
     - Tissue sampling either for cytological or histological examination , positive predictive value 99.9%

9. How much radiation it uses?
   - Approximately 0.1cGY.

Station-00

X-ray skull lateral view (osteolytic lesions)

1. What are the pathological findings?

2. What are the Dx

3. Name 3 biochemical test to confirm the Dx.

Ans:

1. Multiple osteolytic lesion

2. i. Multiple myeloma
   ii. Secondaries

3. i. Bence Jones protein
   ii. Alkaline phosphatase
   iii. Serum Ca^{2+}

X-ray shoulder including upper part of the humerous

i) What are the findings?

ii) How will you Rx the case?

Ans:

i. Osteolytic lesion in the proximal diaphysis
   Flecks of new bone formation
   Pathological

ii. Rx of the primary accordingly
   External beam radiotherapy with internal fixation

STATION

X-ray left hip joint B/V
Study the imaging carefully and answer the questions given below

Time-5 mins

1. Name the imaging with the radiological diagnosis?
   A.....

2. Who are the common victims of the condition.
   A.....

3. Give three features with which the patient may present.
   A. i).....
   ii) .....
   iii).....

4. Name on investigation required for the definitive management.
   A.....

5. Name the definitive treatment
   A.....

1. Name the imaging with the radiological diagnosis? 1
   A. X-ray left femur including left hip joint A/P view showing intracapsular fracture neck of left femur.

2. Who are the common victims of the condition? 1
   A. Elderly.

3. Give three features with which the patient may present.
   A. i) Pain at hip. 0.5
      ii) Inability to rotate the limb inwards. 0.5
      ii) Shortening of affected limb with external rotation. 0.5.

4. Name one investigation required for the definitive management.
   A. Plain x-ray pelvis including both hip joint and upper end of both femur. 0.5

5. Name the definitive treatment
   A. Hemiarthroplasty.

Fig: X ray right femur.

STATION

X ray right femur.
Study the imaging carefully and answer the questions given below

Time- 5 mins

1. Name the imaging?
Ans:.....

2. Write the radiological diagnosis.
Ans.....

3. Name four typical clinical features with which the patient may present
Ans. i).....
ii) .....
iii) .....
iv) .....

4. Outline the principles of management of this patient
Ans. i).....
ii) .....
iii) .....
iv) .....

Checklist

1. Name the imaging?
Ans: X-ray right femur including right hip joint AP view

2. Write the radiological diagnosis.
Ans. Fracture shaft of femur.

3. Name four typical clinical features with which the patient may present
Ans.
i) Pain
ii) Swelling
iii) Shortening of limb

iv) H/O trauma

4. Outline the principles of management of this patient

Ans.

i) ORIF
ii) Close reduction & traction
iii) Rehabilitation.

STATION

Barium-swallow X-ray lateral view

Questions:

i. Name the X-ray

ii. Findings

iii. How will you confirm the Dx

Ans:

i) Barium-swallow X-ray lateral view

ii) Hugely dilated oesophagus smooth narrowing of the lower end (Birds beak appearance)

iii) Endoscopy & biopsy

Plain X-ray abdomen

Questions:

i) Name the X-ray

ii) Findings

iii) Dx

Ans:

i) Plain x-ray abdomen including both dome of diaphragm & lower chest

ii) Cresentric free gas shadow under both dame of the diaph.
Ground glass appearance
Multiple air fluid level

iii) Perforation of the Gas continuing hollow viscus withy paralytic ileus

Plain-X-ray abdomen

Questions:

i) Diagnostic point

ii) Dx

Ans:

i) Hugely distended large bowel (sigmoid colon because- haustration present from residue with in the lumen arising from the pelvis

ii) Low large gut obstruction (volvulus)

Fig: X-ray of elbow including lower arm & upper forearm (supracondylar fracture)

X-ray of elbow including lower arm & upper forearm

1. What is you radiological dx?
   - Supracondylar fracture

2. What are the morbid changes clinically detected after injury?
   - Swollen elbow
   - S-deformity of elbow-posteriorly displaced
   - Abnormal bony landmarks
   - Pulselessness
   - Features of nerve injury

3. Name 5 other fractures near elbow joint.
   - Fracture of the lateral condyle
   - Fracture of the medial condyle
   - Separation of the medial epicondylar epiphysis
   - Fracture - separation of distal humeral physis
   - Fracture neck of radius

4. What are the complications?
   Early:
   i. Vascular injury-compartment syndrome
   ii. Nerve injury
   Late:
   i. Malunion
   ii. Elbow stiffness
   iii. Myositis ossificans
   iv. VIC (Volkman ischemic contracture)
   v. Varus deformity
   vi. Valgus deformity

5. Principles of treatment
   Type I: Undisplaced
   Type II: Angulated fracture with posterior cortex still in continuity
   A - Less severe & merely angulated
   B - More severe & both angulated and malrotated
   Type III: Completely displaced

Treatment:

Type-I : Elbow immobilized at 90 degree & neutral rotation in light-weight splint or cast, aim supported by a sling - 3 weeks.

Type II-A: Reduction with traction & counter traction if reduction unstable percutaneous crossed Kirschner wires

Type II & III: ORIF

Q. i) Findings & Dx
Supracondylar fracture

ii) Complication – grave

Fig: X-ray forearms - fracture radius and ulna

X-ray forearms

1. What is the radiological dx?
   - Fracture radius and ulna

2. What Rx you want to give?
   - ORIF

3. What may be the complications?

Early :

i. Nerve injury
ii. Vascular injury-radial artery or ulnar artery
iii. Compartment syndrome

Late:

i. Delayed union
ii. Non-union
iii. Malunion - cross union

Complications of plate removal:

1. Damage to vessels
2. Damage to nerves
3. Infection
4. Fracture through screw hole

4. What is hemiarthroplasty?

- Refashioning of one component of a joint either by excision of replacement.

5. What is arthrodasis?

- Surgical immobilization of a joint or artificial ankylosis.

Fig: X-ray KUB: Unstable pelvic fracture with cystic calculi

1. What is your dx?
    - Unstable pelvic fracture with vesical calculi

2. What are the causes of store formation?
    - Stasis
    - Infection
    - Malnutrition
    - Foreign body
    - Diverticulus

3. What type of pelvis it is?
    - Female pelvis

4. Why UTI more common in female?
    - Short urethra
    - Close contact of urethra with genitalia
    - Repeated UTI in uterine prolapse

5. What are the indications of dialysis?
    - Acidosis: serum HCO3 <10 mg/dl
    - Electrolyte disturbance: Serum K>7meq/dl
    - Intoxicants:
        - Ethanol
        - Methanol
        - Salicylates
    - Overload with unresponsive to diuretics
    - Urea & creatinine:
        - S. urea > 300 mg/dl
        - S-creatinine > 7 mg/dl
    - Pericarditis
    - Polyneuropathy

6. Prerequisite of operation in a kidney stone-
    - Morning KUB X-ray
    - Correction of deficit. including fluid & electrolysis
    - Antibiotic
    - Confirm the function of opposite kidney
    - IVU (intravenous urogram)

Fig: X-ray pelvic fracture

Q1. What are the findings?

Ans - Fracture in ilio sacral junction, ischiopubic rami, iliopubic rami fracture & displacement

Q2. How this patient is present?

Ans - Pain, unable to move the limb, shock, haematuria, abdominal distension

Q3. How you will treat?

Ans - Follow ATLS guideline, immobilization, surgery

Q4. Write down two P/R findings?

Ans - High riding prostate, painful P/R, anterior wall of rectum bulging

Q5. What is the surgical management?

Ans - Laparotomy, pelvic packing, embolization

Fig: X-ray left hand

Q1. What are the findings?

Ans - Pathological Colle's fracture

Q2. What are the causes?

Ans - Hyperparathyroidism, primary bone tumour, secondary bone tumour

Q3. What is your diagnosis?

Ans - Pathological fracture

Q4. How you will treat?

Ans - According to cause, immobilization, ORIF, Excision bone graft.

Fig: X-ray invertogram

Q1. What are the findings?
Ans - Multiple gas & fluid level in abdomen

Q2. What is the diagnosis?
Ans - High variety anal atresia

Q3. Write down the immediate management?
Ans - Laparotomy & colostomy

X-ray chest

1. Name the imaging?
A.....

2. Write three findings seen in the imaging that helps one to arrive at the diagnosis.
A i).....
ii) .....
iii) .....

3. Give two causes of such condition
A. i) .....
ii) .....

5. Name three typical clinical features with which the patient may present.
A. .....

6. Name the timing of intervention.
A. .....

7. What is the sequelae in the absence of intervention?
A. i) .....
ii) .....
iii) .....

5. Name the immediate definitive treatment for this patient.
A. .....

Check list

1. Name the imaging?
   A. X-ray chest PA view including neck 0.5

2. Write five abnormal radiological features seen in the imaging.
   A. i) Right sided pneumothorax 0.5
      ii) Right lung is partly collapsed 0.5
      ii) Fracture of ribs to on the rt side at two position only 0.5
      iv) Surgical emphysema present in right side of neck and chest 0.25
      v) Fracture clavicle right 0.25

3. Give two causes of such condition
   A. i) Blunt chest injury due to high velocity trauma / MVA. 0.25
      ii) Physical assault.0.25

4. Name three typical clinical features with which the patient may present.
   A. i) Respiratory distress 0.25
      ii) Pain increases on deep inspiration 0.25
      iii) Presence of crepitus in right chest wall and neck/ supraclavicular region 0.25

5. Name the immediate definitive treatment for this patient.
   A. Insertion of a water seal drainage of right hemithorax

Plain X-ray: Upper part of abdomen & chest

Questions:

i. Name the X-ray
ii. Findings
iii. Dx

Answer:

Bowel shadow (distended bowel loop in the chest)
Diaphragmatic change (dome of diaphragm)
Mediastium shifted to the Rt side
Congenital diaphragmatic hernia

CXR PA view

Study the imaging carefully and answer the question given below

Time-5 mins

1. Write 4 important findings of the X-ray?
   A. ……..

2. What is the diagnosis?
   A. ……

3. Write 3 clinical features of the conditions?
   A. i) ……
   ii) ……..
   iii) …….

4. What is the treatment?
   A …….

5. What are the complications?
   A …….

Check list

1. Write 4 important findings of the X-ray?
   - Mediastinum shift to opposite site.
   - Bowel loop in the left hemithorax
   - Shifting of trachea
   - Multiple gas fluid level.

2. What is the diagnosis?
   - Congenital diaphragmatic hernia/diaphragmatic hernia.

3. Write 3 clinical features of the conditions?
   - Dyspnoea, cyanosis
   - Scaphoid abdomen
   - Shifting of apex beat.

4. What is the treatment?
    - Repair of the hernia.

5. What are the complications?
    - Intestinal obstruction
    - Pulmonary hypertension
    - Persistent fetal circulation

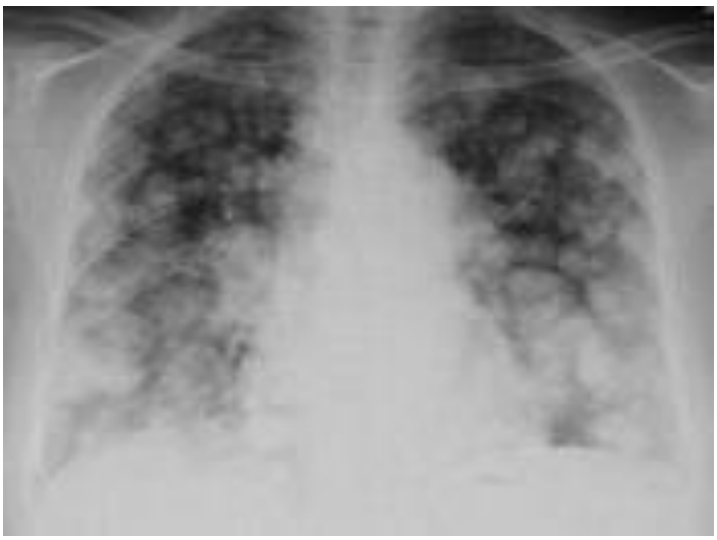

Fig: CXR - Cannon ball

1. What is the radiological finding?
    - Multiple cannon ball shadows in both lung fields

2. What is the radio dx?
    - Metastatic lung deposit

3. What lesions may give rise this finding?
    - Testicular tumour - Teratoma
    - Renal cell carcinoma
    - Soft tissue sarcoma

- Osteosarcoma
- Choriocarcinoma
- Malignant adrenal tumour
- Malignant melanoma
- Ca thyroid, breast, prostate

4. Give 3 C/F
   - Asymptomatic
   - Chest pain
   - Cough
   - Haemoptysis
   - Dyspnoea
   - vi .Features of primary disease
   - Superior mediastinal syndrome

5. How can you confirm you dx?
   - Image guided FNAC
   - Bronchoscopy and biopsy

6. Rx-
   - Treatment of primary lesion
   - For pulmonary lesion —
     - CT
     - HT

3. Surgery - segmental lung resection/metastatectomy –
   - Solitary metastasis
   - Multiple confined to one lobe.

Fig: Plain X-ray abdomen - pancreatic calcinosis.

1. Describe the X-ray and comment on the radiological findings
    - Plain X-ray abdomen showing multiple radio opaque shadows across the upper abdomen along the pancreatic axis likely pancreatic calculi/pancreatic calcinosis. May be a case of chronic fibrocalculous pancreatitis.

2. What further investigation you would like to perform to substantiate your radiological dx?
    - USG of HBS and pancreas
    - ERCP

3. What lab inv. you would like to perform in this patient?
    - CBC
    - Blood sugar
    - S. Amylase
    - S. Calcium
    - S. Phosphate
    - S. PTH

4. When do you consider surgical intervention?
    - Intractable pain
    - Dilated MPD with stricture and stones
    - Biliary / duodenal obstruction
    - Suspicion of malignancy

5. What surgical procedure usually performed & why?
    - Pancreatolithotomy and anterolateral pancreaticojejunostomy Roux-en-Y- to improve pancreatic drainage & to reduce pain.

Fig: Ba swallow X-ray → achalasia cardia.

1. Describe the X-ray
    - Ba swallow X-ray showing stricture with smooth tapering at the lower end of the oesophagus.
    - Dilatation of the oesophagus above the stricture with loss of peristalsis absence of fundal gas.
    - Food residue present.

2. What is your dx?
    - Achalasia cardia

3. Give 3 D/D
    - Ca oesophagus
    - Benign stricture
    - Chagas disease

4. Name 3 major complications if not treated adequately?
    - Aspiration pneumonia & lung abscess
    - Ca oesophagus
    - Malnutrition

5. What are the predisposing factors?
    - Loss of ganglion cell - causes unknown / congenital
    - Neurotropic virus - varcella zoster
    - Trypanosoma cruzi - Chagas disease

6. What is the definitive operation?
    - Hellar's candioseromyotomy

7. Treatment options
    - Calcium channel blocker
    - Botulinum toxin – endoscopic injection
    - Forceful Balloon dilatation
    - Hellar's myotomy with antireflex surgery - fundaplication

8. Inv for achalasia cardia.
    - Upper GI endoscopy
    - Barium swallow.
    - Oesophageal manometry
    - CXR

Ba meal X-ray: Gastrojejunostomy stomal obstruction

1. Name the X-ray
    - Ba meal X-ray

2. What is your radiological dx?

- Afferent loop obstruction

3. What structure seen?
   - Oesophagus
   - Stomach
   - Jejunum
   - Duodenum

5. Was if done properly?
   - ➢ No, afferent loop is too long

6. What will be the Mx of stomal obstruction?
   - Observation 3-5 days
   - If not relieved within 3-5 days
   - Continue NG tube, IV fluid & antibiotic
   - Endoscopy
   - Gastrografin meal X-ray
   - If these two not possible - Not passed though stoma
   - Parenteral nutrition upto 3 weeks if not relief in 3 weeks -Re-operation

7. What are the causes of stomal obstruction?
   - Insufficient stoma
   - Oedema of stoma
   - Kinking or volvulus of jejunal loop
   - Jejunogastric intussusception
   - Herniation of small intestine through transverse mesocolon window.

8. How the patient presents?

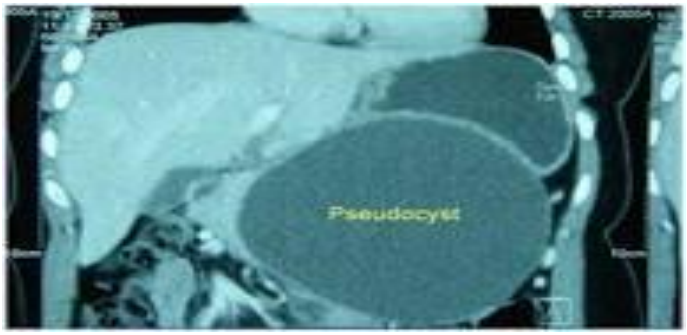

Fig: CT scan - pancreatic pseudocyst

1. What is the findings
    - Stomach is pushed up, left laterally and downwards.

2. What are the D/D of retroperitoneal tumour?
    - Pancreatic pseudocyst
    - Lymphoma
    - Fibrosarcoma
    - Lipoma
    - Liposarcoma
    - Malignant fibrous histiocytoma
    - Adrenal tumours
    - Teratoma

3. What is the Mx?
    - Observation fox 6 weeks with follow up by USG
    - Percutaneous drainage - If main duct intact
    - Surgery:
        - Cystogastrostomy
        - Cystoduodenostomy
        - Cystojejunostomy
        - Distal resection
        - Roux-en-Y pancreatojejunostomy – now preferred

4. What are the treatment options?
    - Watchful observation
    - Percutaneous drainage

- Surgery

5. What are factors which determine Mx?
   - Symptoms
   - Duration
   - Size of cyst
   - Extent of disease:
     - Dust intact or not
     - Degree of parenchyma damage

6. Indications of surgery
   - Cyst size > 6 cm
   - cyst wall thickness > 6 cm
   - Not resolved within 6 wks by conservative treatment

7. Why surgery after 6 weeks?
   - Cyst wall maters in 6 weeks

8. What are the complications of pseudocyst?
   - Infection
   - Bleeding
   - Rupture
   - Obstruction stomach, duodenum, CBD

9. How much time required to form pseudocyst
   - Formation of a pseudocyst requires 4 wks or more from the onset of acute pancreatitis.

10. What is pseudopancreatic cyst?
    - A pseudocyst is a collection of pancreatic juice encluged in a wall of fibrous or granulation tissue.

Upper GIT contrast X-ray

1. Name the X-ray
   - Upper GIT contrast X-ray

2. What are the findings?
   - Stomach is normal
   - Duodenum is normal with formed cap
   - Jejunum is dilated
   - Segment of narrowing in jejunum

   (Why jejunum → there are valvulle coniventis)

3. What is your dx?
   - Stricture / growth in jejunum

4. What may be the possible pathology?
   - Malignant stricture in jejunum
   - Lymphoma
   - Tuberculosis
   - Benign stricture due to Crohn's disease

5. What are the other investigations you will advise?
   - Upper gut enteroscopy & biopsy
   - USG of whole abdomen
   - Image (USG/CT) guided FNAC
   - CT scan of whole abdomen

6. What is your plan of Rx?
   - Staging after confirmation
   - Exploratory laparotomy and treatment accordingly.

Barium meal X- ray

1. Name the image with regard to contrast, organ, position and view.
   A. ……

2. Write two radiological features which will help in diagnosis.
   A. ……

3. What is your radiological diagnosis?
   A. ……

4. Radiologically what else can it be?
   A. ……

5. How do you confirm it preoperatively?
   A. ……

6. Why the whole stomach is well focused?
   A. ……

Check list

1. Name the image with regard to contrast, organ, position and view.
   A. Barium meal X ray of stomach in Trendelenberg position, lateral view. 0.5 + 0.5

2. Write two radiological features which will help in diagnosis.
   A. i) Space occupying lesion with irregular outline in the pylorus. 0.5 + 0.25 + 0.25
      ii) In the same place, lesser curvature is distorted and not the greater curvature. 0.5 + 0.5

3. What is your radiological diagnosis?
   A. Antral carcinoma / Carcinoma stomach 1.0 / 0.5

4. Radiologically what else can it be?
   A. Bezoars 1.5

5. How do you confirm it preoperatively?
   A. Multiple endoscopic biopsy. 1.0 + 0.5

6. Why the whole stomach is well focused?
   A. Because of Trendelenberg position. 2.

Fig: Double contrast Barium Enema - Carcinoma descending colon

1. What is your radiological dx?
   - Carcinoma descending colon

2. What are the D/D?
   - Inflammatory stricture
   - Carcinoid tumour
   - Tuberculosis
   - Amoebic granuloma
   - Diverticulitis

3. How can you confirm your dx?
   - Colonoscopy and biopsy

4. What are the principles of surgery on colon?
   - Counselling
   - Consent

- Improvement of general condition:
  - Anaemia correction
  - Malnutrition correction
- Bowel preparation: Mechanical & Pharmacological
- Anastomosis without tension, airtight watertight ensuring viability of ends
- Defunctioning ileostomy where applicable
- Flush ligation & lymphovascular clearance in malignancy
- DVT prophylaxis
- Tetanus prophylaxis
- Antibiotic prophylaxis
- Drain
- Urethral catheterization

X-ray Barium enema

Study the X-ray carefully and answer the questions

01. What are the findings of this contract X-ray?

0.2. What are the possible differential diagnosis?

0.3. Name one investigation which will confirm the diagnosis?

Check list

1. a) Synchronous filling defect in sigmoid colon. 1
   b) Synchronous filling defect in caecum 1
   c) Shouldering effect in the caecum 1

2. a) Synchronous colonic carcinoma 2
   b) Tuberculosis 1
   c) Crohn's disease 1
   d) Caecal malignancy and TB in sigmoid colon 1

3. Colonoscopic biopsy of the lesion. 2

9. X-ray RGU
   - Name of the X-ray contrast x-ray/RUG
   - Findings-stricture urethra

Fig: T-tube cholangiogram

1. What is it?
   - Post operative T-tube cholangiogram

2. What operation was done, Why?
   - Exploration of CBD, probably due to stone

3. What are the complications associated with this operation?
   - During operation:
     - Haemorrhage
     - Injury to bowel, vessels
   - Post operative:
     - Early :
       - Cholangitis
       - Pancreatitis
       - Biliary peritonitis

- Late:
  - Biliary stricture
  - Stricture of papilla

4. What further investigation you want to do?
   - ERCP

5. What is the Mx of retained stone?
   - Leave the T-tube to drain for a further 7-10 days & repeat the cholangiogram. Upto 80% of filling defects (air bubbles, blood clots) disappear spontaneously.
   - Irrigation e saline via-T-tube check cholangiogram
   - ERCP & sphincterotomy - spontaneously or with dormia basket or balloon catheter
   - Burhenne procedure weeks after the operation
     - Retrieval via the T-tube tract under fluoroscopic control the treat is dilated with graduated dilators & stone removed with dormia basket or balloon catheter.
   - Reoperation - Transduodenal sphincteroplasty

6. What is the size of stone which is not suitable for ERCP removal?
   - Stone over 15 mm.

7. Give T-tube Mx.
   - T-tube cholangiogram on 7th POD
   - Gradual clamping of the tube & observation
   - T-tube is removed if –
     - No leakage from subhepatic drain
     - No pain or fever for 24 hrs.
   - Subhepatic drain is removed 1 day later
   - T-tube is kept in place at least (2 weeks in elderly, diabetics, immunocompromized patients as maturation of tract is impaired in these patients and early removal may result in biliary peritonitis.

T-tube cholangiogram: Retained stone in CBD

1. What structures are identifiable?
   - T-tube
   - Biliary tree

2. What is your dx?
   - Retained stone in distal CBD

3. What are the indications of choledochotomy?
   - Palpable stone in CBD
   - Jaundice or H/O jaundice or cholangitis
   - A dilated CBD
   - Abnormal LFT, in particular a raised ALP

4. Why only herniotomy is adequate in children?
   Posterior wall of inguinal canal or abdominal musculature is not weak.

5. What are the types of mesh repair?
   - Open mesh repair
   - Laparoscopic mesh repair: TEP , TAPP

Fig: T-tube cholangiogram and ERCP

1. Name the X-ray
   - T-tube cholangiogram and ERCP

2. What are the findings?
   - Both intra and extrahepatic biliary tree are well visualized
   - CBD is mildly dilated
   - Multiple negative shadows in the distal part of CBD
   - Dye did not pass into the duodenum
   - A gas shadows found in duodenum

3. What is your dx?
   - Retained stones in CBD with biliary obstruction

4. What are the next possible steps to manage this patient?
   - Management options
     - ERCP - sphicterotomy and removal of stone by dormia basket
     - ESWL - ERCP removal,
     - Percutemous transhepatic route cholangioscop.
     - Laparoscopic or open choledocholithotomy.
     - Burhanne procedure.
   - ERCP removal of stones → Probably this will complete the treatment
   - If failed, open surgical removal.

5. What are the possible complications of this procedure?
   - Cholangits
   - Hge
   - Duodenal perforation
   - Pancreatitis
   - Anaphylactic reaction to dye

Fig: ERCP

1. What is the type of this procedure?
    - ERCP

2. What structures you can see in this film?
    - Side viewing endoscope
    - Whole biliary tree except GB
    - Pancreatic duct

3. What are the abnormalities visible?
    - Negative shadow in terminal CBD
    - Dilation of extrahepatic biliary tree

4. What are your D/D in this film?
    - Stone
    - Cholongiocarcinoma
    - Air bubble
    - Blood Clot

5. What are the complications of this procedure?

- Cholangitis
- High
- Duodenal perforation
- Pancreatitis
- Anaphylactic reaction to dye

6. What are the preparations for ERCP?
    - To check PT/INR & correct if abnormal with Inj. vit-K & FFP
    - To check viral markers :
        - HBsAg
        - Anti HCV
    - Prophylactic antibiotic
    - NPO for 6 hours supported by IV fluid postprocedure 12 hrs

7. What are the contraindications of ERCP?
    - Pancreatic pseudocyst

ERCP: Long cystic duct stump

1. What is it?
   - ERCP

2. What are the findings in this film?
   - Well visualized intra and extrahepatic biliary tree
   - Long cystic duct stump

3. What is stump syndrome?
   - If cystic duct is left long during cholecystectomy

4. What is the diameter of cystic duct, CBD?
   - Cystic duct 1-3 mm.
   - CBD 7 mm

5. When CBD would be called dilated?
   - When it is dilated to 8 mm or more.

6. How much cystic duct can be dilated?
   - Upto 9 mm

ERCP

Study the imaging carefully and answer the questions.

Q.1. Name the procedure done in this film.

Q.2. What are the findings present in this film?

Q.3. What is your radiological diagnosis?

Check list

1. Endoscopic retrograde cholangiopancreatography (ERCP) 1.5

2. a) Well visualized —
   - i) Intrahepatic biliary tree 0.5
   - ii) Extrahepatic biliary tree 0.5

iii) Pancreatic duct 0.5

b) Unduly long cystic duct stump/ rudimentary gallbladder 2

c). Dilated extra hepatic biliary tree with a rounded filling defect / negative shadow at its lower part. 2

3. a) Choledocholithiasis 2

b) Choledochal cyst with stone 1

Study the imaging carefully and answer the following questions given below

Q1. Name the imaging?

A……

Q2.Write two radiological features seen in the imaging

A. 1……

2……

Q3 Give two cause of such condition

A.1……

2……

Q4. Name three things this patient which may need to be addressed before definitive treatment.

A.1……

2……

3……

Q5. Name the definitive treatment for this patient.

A.1……

Check list

Q1. Name the imaging?

A. ERCP

Q2. Write two radiological features seen in the imaging

A. 1. No passage contrast beyond common hepatic duct

2. Normal pancreatic duct

Q3. Give two cause of such condition

A. 1. Accidental ligation of the bile duct
2. Cholangiocarcinoma

Q4. Name three things this patient which may need to be addressed before definitive treatment.

A. 1. Biliary decompression
2. Coagulopathy
3. Water and electrolyte balance

Q5. Name the definitive treatment for this patient.

A. 1. Roux-en-Y hepaticojejunostomy

ERCP: Pancreatic calculi

1. What are the findings of this film?
   - Well visualized intra and extrahepatic biliary tree
   - MPD is dilated containing multiple stones

2. How can the patient present? Give 6 points.
   - Deep seated epigastric pain with radiation to back
   - Dyspepsia – nausea, vomiting
   - Steatorrhoea
   - Malabsorption
   - Weight loss
   - Diabetes mellitus - insulin dependent
   - Jaundice

3. What is the definite operation?
   - Pencreatolithotomy with anterolateral pancreaticojejunostomy
   - Roux-en-Y loop of jejunum longitudinal pancreaticojejunostomy

4. What are the complications of chronic pancreatitis?
   - Pancreatic pseudocyst

- Biliary obstruction
- Duodenal obstruction
- Malnutrition
- Diabetes mellitus
- Adenocarcinoma of pancreas – greater frequency in patients with familial chronic pancreatitis than in general population

5. Whether it is preoperative or postoperative firm?
   - Post operative as multiple clips are there.

ERCP

Q1) Name the imaging.
A……

02) Name the abnormal finding in the imaging?
A……

Q3) What is the diagnosis?
A……

Q4) Write two late complications that this patient is at risk of developing?
A. 1. ……
2. ……

Q5) What is the best treatment option for this patient.
A……

Q6) Why is it the best option?
A……

Check list

Q1) Name the imaging
A. Endoscopic retrograde cholangiopancreatography / ERCP 0.5

Q2) What is the finding in this X-ray?

A. A linear negative shadow in the biliary tree. 1

Q3) What is your diagnosis?

A. Biliary ascariasis. 2.

Q4) What are the late complications that this patient is at risk of developing?

A. a) Recurrent cholangitis
b) Stone formation. 1+1

Q5) What is the best option for this patient.

A. ERCP & worm extraction. 1+1

Q6) Why is it the best option?

A. As there is chance of recurrence, we can repeat ERCP but re-operation on bile duct is always difficult. 1 + 1

ERCP: Choledochal cyst

1. What is dx & type?
   - Choledochal cyst type II

2. What are the complications of this disease?

- Cholangitis
- Stone
- Obstructive jaundice
- Cholongiocarcinoma

3. What are the presenting features?
   - Asymptomatic
   - Cystic lump in upper abdomen
   - Obstructive jaundice
   - Cholangitis
   - Most commonly female patient in early age

4. What are the indications of surgery in chronic pancreatitis?
   - Intractable pain
   - Dilated MPD with stones and strictures
   - Biliary/duodenal obstruction
   - Suspicion of malignancy

5. What are the operations done on pancreas?
   - Whipple's operation
   - Pylorus preserving pancreaticoduodenectomy
   - Lateral pancreaticojejunostomy
   - Anterior pancreaticojejunostomy
   - Total pancreatectomy
   - Distal pancreatectomy

6. What further investigation you want to do?
   - CT scan of HBS and pancreas
   - Endoscopic USG.

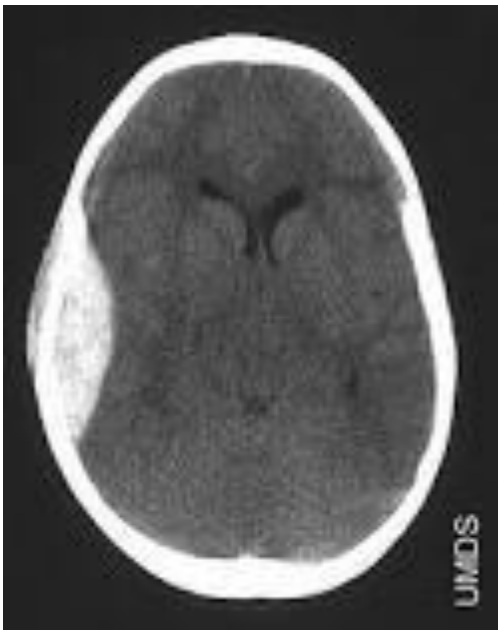

Fig: CT Scan of skull

1. Name the imaging?
   A.....

2. Write three findings seen in the imaging that helps one to arrive at the diagnosis.
   A i).....
   ii) .....
   iii) .....

3. Name the diagnosis of the condition
   A .....

4. Give two modes of presentation of such a case
   A. i) .....
   ii) .....

5. Name the intervention that is to be done.
   A. .....

6. Name the timing of intervention.

A. .....

7. What is the sequelae in the absence of intervention?
   A. .....

Check list

1. Name the imaging?
   A. Axial CT Scan of the brain / head. 1

2. Write three findings seen in the imaging that helps one to arrive at the diagnosis.
   A i) Right sided fronto-parietal radio-opacity 1
   ii) Convex lens appearance 1
   iii) Compression of the right lateral ventricle/midline shift. 1

3. Name the diagnosis of the condition
   A. Acute extradural haematoma 1

4. Give two modes of presentation of such a case
   A. i) H/o trauma followed by immediate unconsciousness and or lucid interval 1
   ii) Headache, nausea, vomiting, convulsion/↑ ICP 1

5. Name the intervention that is to be done.
   A. Urgent craniotomy and Evacuation of haematoma 1

6. Name the timing of intervention.
   A. Immediate 1

CT Scan of brain: Extradural haematoma

1. What is the radiological findings?
   There is a high density lentiform area
   No ventricular displacement/midline shifting.

2. What is your dx?

- Acute extradural haematoma.

3. What are the causes if such pathology?
   - Injury or laceration of a branch of middle meningeal artery
   - Fractured bone edge
   - Laceration of dural venous sinsuses

4. Give 5 clinical features.
   - Loss of consciousness
   - Lucid interval
   - Contralateral hemiplegia
   - Contralateral deafness
   - Constriction to pupil
   - Blurring of vision
   - Vomiting
   - Fundoscopy - papilloedema

6. What are the treatment methods?

   i. Supportive:
      - NG feeding
      - Urethral catheterization
      - Care of skin
      - Care of eye
      - O_2
      - Steroid stabilizes membrane
      - Mannitol

   ii. Surgery: Craniotomy & evacuation of clot & haemostasis.

CT scan of abdomen: Ca head of pancreas

1. What type of image is this?
   - Contrast CT scan of upper abdomen

2. What are the structures you can see?
   - Ribs, sternum, spine, heart, lungs, trachea stomach, liver, spleen, kidney, great, vessels, paravertebral muscle

3. What abnormalities can see in it?
   - Focal mass in the head of the pancreas which is hypodense and irregular.

4. What is your dx?
   - Ca. head of the pancreas

5. What are you D/D?
   - Adenoma
   - Cystadenoma
   - Fibroma
   - Leiomyoma
   - Haemangioma
   - Lymphangioma

6. How can you confirm your dx?
   - Image guided FNAC
   - Endoscopic biopsy

Fig: CT scan of abdomen

Study the imaging carefully and answer the following questions given below

Q1. Name the imaging
Ans……

Q2. Enumerate two radiological features in the imaging
Ans 1……
2……

Q3. What is the clinical diagnosis
Ans…….

Q4. Name three treatment modalities of this condition
Ans 1…….
2……
3…….

Q5. Name three complications of this condition if left untreated
Ans 1……
2…….
3…….

Check list

Q1. Name the imaging
Ans. Oral contrast Ct scan of abdomen

Q2. Enumerate two radiological features in the imaging

Ans. 1. Large, well defined circumscribed mass with complex density in right of lobe liver
2. Multiple daughter cyst present with in large cyst

Q3. What is the clinical diagnosis

Ans. Hydatid cyst.

Q4. Name three treatment modalities of this condition

Ans. 1. PAIR.
2. Medical treatment.
3. Excision of cyst

Q5. Name three complications of this condition if left untreated

Ans. 1. Rupture/Anaphylactic shock
2. Infection
3. Calcification

CT scan of abdomen: Multiple secondaries in liver

1. What are your findings?

- Multiple hypodense areas in liver which are round and well demarcated from adjacent parenchyma.

2. What may the source of this pathology?

- Primary may be —

- Portal draining area:
  - Stomach
  - GB
  - Biliary tree
  - Pancreas
  - Colon
  - Rectum
- Breast
- Lung

3. How can you confirm your dx?
   - Image (USG/CT) guided FNAC

4. What type of image it is? What contrast used?
   - Helical contrast CT scan.
   - Barium - orally
   - Iodine - IV

5. Why these are secondary?
   - Multiple
   - Situated peripherally

Fig: Retroperitoneal mass

MRI of brain and CT scan of abdomen

Study the imaging carefully and answer the following questions given below

SCENARIO

A 25 years young lady presented with bilateral hearing loss with huge retroperitoneal mass.

MRI of brain and CT scan of abdomen were done.

Q1. What is the diagnosis in contrast MRI of brain?
Ans…….

Q2. What is the finding of abdominal CT scan?
Ans……..

Q3. Mention the diagnosis in this case
Ans……..

Check list

Q1. What is the diagnosis in contrast MRI of brain?
Ans. Bilateral acquestic neurofibroma.

Q2. What is the finding of abdominal CT sacn?
Ans. A large retroperotoneal mass at right side, mass is well defined compressing the midline structure

Q3. Mention the diagnosis in this case
Ans. Neurofibromatosis

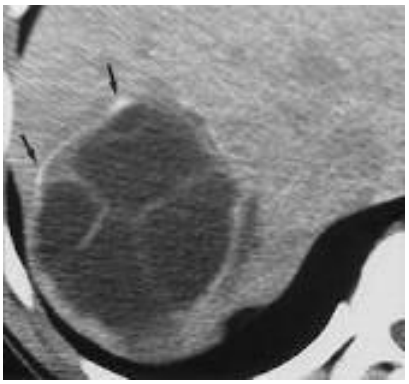

Fig: Hydatid cyst of liver

CT scan of abdomen: Hydatid cyst of liver

1. What is your dx?
    - Hydatid cyst of liver

2. What are the D/D?
    - Simple liver cyst
    - Hepatocellular carcinoma
    - Secondary
    - Liver abscess: Pyogenic, amoebic
    - Haemangioma

3. How will you confirm?
    - Image guided FNAC
    - ELISA for antibody to hydatid antigen
    - Contrast CT:
        - If solid → it will become prominent
        - Cystic → cyst margin will be clear.

4. What are the other tests you suggest?
    - USG
    - Serum antibody to hydatid antigen:
        - ELISA
        - CFT

- Immunablot

5. What is the Management:
   - Conservative:
     - Albendazole or mebendazole of 3 months with prazinquantel for first 2 weeks
     - Reassessment after 3 months chemotherapy for 1 year
       - Albendazole:
         - 10-15 mg kg day
         - Acts against germinal membrane
       - Praziquantel:
         - 40 mg kg day in 2 divided doses
         - Act against protoscoleces
   - Surgical procedures:
     - CT or USG guided PAIR (Puncture, Aspiration, Injection & Re-aspiration)
     - Percutaneous therapy with —
       - 20% hypertonic saline
       - 0.5% silver nitrate
       - 95% sterile ethanol
       - Absolute alcohol
     - Laparoscopic cystotomy, deroofing & omentoplasty with helical fasteners
     - Partial resection
     - Marsupialization & tube drainage or omentoplasty
     - Total cystopericystectomy - Radical surgical excision
     - Partial hepatectomy

6. What precaution you will take for surgery?
   - 3 weeks chemotherapy preoperatively
   - Coloured mop – white mop for liver, colour mop for intestine
   - Mop soaked e hypertonic saline to pack surrounding organs
   - Infiltration of cyst with hypertonic saline
   - Meticulous dissection to minimize spillage
   - 2 weeks chemotherapy post operatively praziquantel plus albandazole.

CT scan of the abdomen

Questions:

1. Name the image
2. What are the findings?
3. What is the diagnosis?
4. Indication of the surgery

Answer:

1. Oral & IV contrast CT scan of the abdomen

2. Findings:
   - Swollen pancreas
   - Dilated pancreatic duet
   - Hypodense non-enhance area in around the pancreas (pancreatic necrosis)
   - Peripancreatic collection of the fluid.

3. Diagnosis: Acute necrotizing pancreatitis

4. Indication of the surgery
   - Gall stone pancreatitis
   - Infected pancreatic necrosis
   - Diagnostic uncertainty