AOJ

PROVISIONAL ANSWER KEY (CBRT)

Name of The Post	**Associate Professor, Radio Diagnosis, General State Service, Class-1**
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Instructions / સૂચના

Candidate must ensure compliance to the instructions mentioned below, else objections shall not be considered: -

(1) All the suggestion should be submitted in prescribed format of suggestion sheet Physically.

(2) Question wise suggestion to be submitted in the prescribed format (Suggestion Sheet) published on the website.

(3) All suggestions are to be submitted with reference to the Master Question Paper with provisional answer key (Master Question Paper), published herewith on the website. Objections should be sent referring to the Question, Question No. & options of the Master Question Paper.

(4) Suggestions regarding question nos. and options other than provisional answer key (Master Question Paper) shall not be considered.

(5) Objections and answers suggested by the candidate should be in compliance with the responses given by him in his answer sheet. Objections shall not be considered, in case, if responses given in the answer sheet / response sheet and submitted suggestions are differed.

(6) Objection for each question shall be made on separate sheet. Objection for more than one question in single sheet shall not be considered & treated as cancelled.

ઉમેદ્વારે નીચેની સૂચનાઓનું પાલન કરવાની તકેદારી રાખવી, અન્યથા વાંધા-સૂચન અંગે કરેલ રજૂઆતો ધ્યાને લેવાશે નહીં

(1) ઉમેદ્વારે વાંધા-સૂચનો નિયત કરવામાં આવેલ વાંધા-સૂચન પત્રકથી રજૂ કરવાના રહેશે.

(2) ઉમેદ્વારે પ્રશ્નપ્રમાણે વાંધા-સૂચનો રજૂ કરવા વેબસાઇટ પર પ્રસિધ્ધ થયેલ નિયત વાંધા-સૂચન પત્રકના નમૂનાનો જ ઉપયોગ કરવો.

(3) ઉમેદ્વારે પોતાને પરીક્ષામાં મળેલ પ્રશ્નપુસ્તિકામાં છપાયેલ પ્રશ્નક્રમાંક મુજબ વાંધા-સૂચનો રજૂ ન કરતા તમામ વાંધા-સૂચનો વેબસાઇટ પર પ્રસિધ્ધ થયેલ પ્રોવિઝનલ આન્સર કી (માસ્ટર પ્રશ્નપત્ર)ના પ્રશ્ન ક્રમાંક મુજબ અને તે સંદર્ભમાં રજૂ કરવા.

(4) માસ્ટર પ્રશ્નપત્ર માં નિર્દિષ્ટ પ્રશ્ન અને વિકલ્પ સિવાયના વાંધા-સૂચન ધ્યાને લેવામાં આવશે નહીં.

(5) ઉમેદ્વારે જે પ્રશ્નના વિકલ્પ પર વાંધો રજૂ કરેલ છે અને વિકલ્પ રૂપે જે જવાબ સૂચવેલ છે એ જવાબ ઉમેદ્વારે પોતાની ઉત્તરવહીમાં આપેલ હોવો જોઇએ. ઉમેદ્વારે સૂચવેલ જવાબ અને ઉત્તરવહીનો જવાબ ભિન્ન હશે તો ઉમેદ્વારે રજૂ કરેલ વાંધા-સૂચન ધ્યાનમાં લેવાશે નહીં.

(6) એક પ્રશ્ન માટે એક જ વાંધા-સૂચન પત્રક વાપરવું. એક જ વાંધા-સૂચન પત્રકમાં એકથી વધારે પ્રશ્નોની રજૂઆત કરેલ હશે તો તે અંગેના વાંધા-સૂચનો ધ્યાને લેવાશે નહીં.

001. A 42 year old fit and well male has a Chest x ray for immigration purposes. There is a rounded opacity in the right mediastinum. Subsequent CT chest reveals a 4.5 cm nodal mass with central calcification and marked enhancement following contrast administration. There are no focal lung lesions.

Which of the following is the most likely diagnosis?

(A) Castleman's disease
(B) Colorectal cancer metastasis
(C) Langerhans cell histiocytosis
(D) Non-Hodgkin's lymphoma

002. A 54 year old woman with a 20 packs per year smoking history presents with worsening chronic dyspnea. Chest x ray shows prominence of the central pulmonary vasculature. Contrast enhanced CT is performed. Which of the following features would not support a diagnosis of pulmonary arterial hypertension?

(A) The patient's demographics
(B) Mosaic attenuation of the lung parenchyma
(C) Bowing of the interventricular septum convex to the right
(D) Pruning of peripheral pulmonary arteries

003. A Chest x ray is requested in a 52 year old man with chronic dyspnea. The Chest x ray shows bi-apical volume loss and reticulonodular changes within both upper zones. Which of the following is the most likely underlying etiology?

(A) Alpha 1-anti-trypsin deficiency
(B) Bleomycin toxicity
(C) Silicosis
(D) Systemic sclerosis

004. A 24 year old asymptomatic man has a Chest x ray for insurance purposes. The report describes a solitary 2 cm pulmonary nodule. A subsequent CT is arranged. Which of the following features favour a diagnosis of carcinoid over hamartoma?

(A) Avid 18FDG-PET uptake
(B) Calcification
(C) Central location
(D) Hounsfield value of-30

005. A 32 year old male patient has a routine Chest x ray for insurance purposes. The film is well centered, the right heart border is indistinct and appears rotated. The lung parenchyma and vasculature appear normal. What is the most likely cause?

(A) Absent left pericardium
(B) Pectus excavatum
(C) Poor patient positioning
(D) Pulmonary artery enlargement

006. In the staging of pleural mesothelioma, which of the following constitutes T4 disease?

(A) Invasion of a rib
(B) Invasion of the endothoracic fascia
(C) Invasion of mediastinal fat
(D) Invasion of the soft tissue of the chest wall

007. A Chest x ray is performed and shows a unilateral right-sided pleural effusion. Which of the following extra-pulmonary conditions is most likely to produce these appearances?

(A) Boerhaave's syndrome
(B) Gastric neoplasm
(C) Stanford type B aortic dissection
(D) Transection of the proximal thoracic duct

008. A 27 year old man under investigation for suspected liver disease has his venous pressures measured and is found to have a hepatic venous wedge gradient of 3 mm Hg. What does this indicate?

(A) There is no liver disease
(B) Pre-sinusoidal cause of portal venous hypertension
(C) Sinusoidal cause of portal venous hypertension
(D) There is insufficient data to draw a conclusion

009. A 76 year old man presents with central chest pain. He is hemodynamically stable and undergoes a thoracic CT study which demonstrates a hyperdense crescent in the wall of the descending thoracic aorta on the unenhanced study, which does not change following the administration of Intravenous contrast medium. What is the most likely diagnosis?

(A) Aortic dissection
(B) Atherosclerosis
(C) Intramural hematoma
(D) Vasculitis

010. Regarding congenital abnormality of the Inferior vena cava (IVC). Which of the following is most likely to be associated with azygous continuation of the IVC?

(A) Asplenia
(B) Total anomalous pulmonary venous connection (TAPVC)
(C) Bilateral bi-lobed lungs
(D) Right isomerization

011. Regarding CT Pulmonary Angiography (CTPA) for the investigation of pulmonary emboli. Which of the following is not a cause of a false-positive CTPA result?

(A) Hilar lymphadenopathy
(B) Low signal-to-noise ratio
(C) Narrow windowing
(D) Respiratory artefact

012. A 20 year old male smoker presents with a history of recurrent spontaneous pneumothoraces. Chest x ray and subsequent CT show bilateral upper zone fine reticulonodular change with some larger discrete upper thin-walled cysts and increased lung volumes. What is the likeliest diagnosis?

(A) Sarcoidosis
(B) Non-specific interstitial pneumonitis
(C) Usual interstitial pneumonitis
(D) Langerhans cell histiocytosis

013. Regarding the primary cardiac tumor myxoma, which of the following statements is true?

(A) 40% occur in the right atrium
(B) Enlargement of the atrial appendage may be seen on Chest x ray
(C) The majority are sessile
(D) Most tumors arise from the septum

014. A 46 year old man with a dry cough is referred for a CT of the thorax. This demonstrates multiple pulmonary nodules, each less than 4 mm in diameter, in a perilymphatic and subpleural distribution. What is the most likely diagnosis?

(A) Sarcoidosis
(B) Metastases
(C) Tuberculosis
(D) Varicella pneumonia

015. Which of the following respiratory conditions is not associated with cigarette smoking?

(A) Idiopathic pulmonary fibrosis
(B) Langerhans cell histiocytosis
(C) Extrinsic allergic alveolitis
(D) Desquamative interstitial pneumonitis

016. A chest X-ray is performed on a patient 1 week following a left pneumonectomy for bronchogenic carcinoma. Which of the following would you not normally expect to see?

(A) Loss of volume of the left hemithorax
(B) Mediastinal shift to the left
(C) Tracheal shift to the right
(D) An enlarging left-sided hydrothorax

017. A 68 year old retired shipbuilder presents with shortness of breath. Chest x ray shows a round 4 cm subpleural mass and a CT is performed. Which of the following CT signs is not a feature of folded lung?

(A) Air bronchograms
(B) Interval growth
(C) Adjacent pleural thickening
(D) Cavitation

018. A 20 year old woman undergoes a Chest x ray as part of an occupational assessment. She is found to have an abnormal lesion in the right cardio-phrenic space and subsequently undergoes CT examination which shows an anterior mass predominantly composed of fat with fine higher attenuation linear structures within it. The lesion also contains some round, well defined gas containing areas. What is the likeliest diagnosis?

(A) Liposarcoma
(B) Pericardial fat necrosis
(C) Thymolipoma
(D) Diaphragmatic hernia

019. A patient undergoes myocardial perfusion imaging and you are shown the standard short axis view. Which part of the myocardium is uppermost as you look at it?

(A) Anterior wall
(B) Interventricular septum
(C) Posterior wall
(D) Inferior wall

020. A plain radiograph reveals a well-defined lucent lesion within the metaphysis and epiphysis of the distal femur. There is eccentric expansion and the cortex is thin but intact. It does not reach the articular surface. CT reveals fluid-fluid levels. Which of the following is the most likely cause?

(A) Giant cell tumor
(B) Aneurysmal bone cyst
(C) Enchondroma
(D) Non-ossifying fibroma

021. A 35 year old man suffers a knee injury during a football match and presents with pain, swelling, knee locking and an inability to fully extend his knee. He undergoes an MRI examination. What is the most common site of injury?

(A) Anterior cruciate ligament
(B) Posterior cruciate ligament
(C) Anterior horn medial meniscus
(D) Posterior horn medial meniscus

022. Which of the following forms of micromelic dwarfism is considered to be the most severe?

(A) Diastrophic dysplasia
(B) Heterozygous achondroplasia
(C) Nievergelt syndrome
(D) Thanatophoric dysplasia

023. A 12 year old boy falls and sustains a fracture to the proximal phalanx of his right index finger which extends from the articular surface to the epiphyseal plate but not extending to the metaphysis. What is the Salter-Harris classification of this injury?

(A) I
(B) II
(C) III
(D) IV

024. A young man sustains blunt trauma to the chest. There is suspicion of a pneumothorax. A supine chest radiograph is available. On this radiograph, which of the following would be the least supportive of this diagnosis?

(A) Presence of the 'deep sulcus sign'
(B) A sharply outlined dome of the diaphragm
(C) A hyperlucent right upper abdominal quadrant
(D) A poorly defined anterior cardiophrenic sulcus

025. In the evaluation of a splenic injury following trauma, which of the following features favours pseudoaneurysm over active extravasation?

(A) Less apparent on delayed imaging
(B) Layering
(C) Ill-defined
(D) Increased size on delayed imaging

026. A patient presents with painful swelling of the limbs and joints, particularly the knees, ankles, wrists and elbows. Digital clubbing and joint effusions are noted. Plain radiographs show marked bilateral, smooth periosteal reactions affecting the radius, ulna, tibia and fibula. Which one of the following diseases is not associated with the most likely unifying condition?

(A) Gaucher's disease

(B) Carcinoma of the bronchus

(C) Undifferentiated nasopharyngeal carcinoma

(D) Pleural fibroma

027. A lady suffers from long-standing rheumatoid arthritis. She is noted to have splenomegaly on a clinic visit. A diagnosis of Felty's syndrome is suspected clinically. Which of the following is not a recognized feature of Felty's syndrome?

(A) Ulceration

(B) Neutropenia

(C) Skin pigmentation

(D) Low titers of rheumatoid factor

028. A patient presents with back pain. He is found to be HLA- B27 positive and a diagnosis of ankylosing spondylitis is suspected. Plain films of the spine are requested. Which of the following would be the least supportive of this diagnosis?

(A) Calcification of the anterior longitudinal ligament

(B) Osteitis

(C) Syndesmophytes

(D) Sclerosis of the costotransverse joints

029. A 7 year old boy is brought to the GP by his parents, having noticed soft, blue-coloured growths on his right hand. The hand X-ray reveals multiple enchondromas. Which of the following features would confirm Mafucci's syndrome as the diagnosis rather than Ollier's disease?

(A) A first degree relative also affected

(B) Bilateral, predominantly symmetrical disease

(C) A discrepancy in arm length

(D) Soft tissue haemangiomas

030. A 32 year old presents with acute abdominal pain. An abdominal X Ray demonstrates calcification in the left upper quadrant, with loops of bowel in this region, central depressions in the superior and inferior endplates of L3 and L4, and a mixed lysis/sclerosis appearance to the superior aspect of the left femoral head. What is the likely unifying diagnosis?

(A) Achondroplasia

(B) Sickle cell disease

(C) Lymphoma

(D) Renal osteodystrophy

031. You are asked to review the chest X-ray of a postoperative patient, now in intensive treatment unit. The patient has a number of lines and tubes. Which of the following positions suggests incorrect placement?

(A) Endotracheal tube with the tip 2 cm above the carina

(B) Central venous catheter with the tip in the junction of the superior vena cava/right atrium

(C) Nasogastric tube with the tip below the diaphragm overlying the stomach

(D) Peripherally inserted tunnelled central venous catheter with the tip in the superior vena cava

032. A 50 year old man presents with knee pain. Plain radiographs show an 8 cm lytic lesion within the distal femoral metaphysis with endosteal scalloping and cortical thickening. CT shows matrix mineralization. Which of the following features does not favour a diagnosis of chondrosarcoma over enchondroma?

(A) The patient's age
(B) The patient's sex
(C) The lesion size
(D) The CT findings

033. An MRI examination of the lumbar spine demonstrates end plates with reduced signal intensity on T1W and increased signal intensity on T2W. What is the most appropriate diagnosis?

(A) Normal
(B) Type I Modic change
(C) Type II Modic change
(D) Type III Modic change

034. A patient with joint pain has plain radiographs of the hands and spine. The differential diagnosis is considered to be between psoriatic arthropathy and rheumatoid arthritis. Which of the following features is more common in rheumatoid arthritis rather than psoriatic arthropathy?

(A) Phalangeal enthesophytes
(B) Involvement of the distal interphalangeal joints
(C) Fusiform soft tissue swelling of the digits
(D) Involvement of the wrist joints

035. A patient with Paget's disease has a series of plain radiographs. Which of the following is a feature of the active phase of the disease?

(A) Widened and coarsened trabeculation of the pelvic ring
(B) 'Cotton wool' skull
(C) 'Ivory vertebra'
(D) Osteoporosis circumscripta

036. A CT scan of cervical spine is performed following major trauma. A Hangman's fracture is suspected. Which of the following features would be unusual with this diagnosis?

(A) Avulsion of the anteroinferior corner of C2
(B) Posterior subluxation of C2 on C3
(C) Bilateral pars fracture of C2
(D) Prevertebral soft tissue swelling

037. A 42 year old man presents with severe central abdominal pain and a raised serum amylase. 4 days later, extremely ill, the patient undergoes a CT of the abdomen which demonstrates that only the head and uncinate process of the pancreas are enhancing and there is extensive free fluid in the peri-pancreatic tissues. How would you interpret these findings?

(A) Acute pancreatitis
(B) Acute pancreatitis with necrosis
(C) Acute pancreatitis with infected necrosis
(D) Acute pancreatitis with abscess

038. A patient with proven Hodgkin's lymphoma is referred for a staging PET-CT. This shows a solitary focal lung lesion with cervical and mediastinal lymph node enlargement. All of these lesions are PET positive with no other sites of disease. What stage is this disease?

(A) I
(B) II
(C) II E
(D) III

039. A 47 year old patient is referred for an abdominal ultrasonography. In the spleen, several rounded, thin-walled hypoechoic lesions are seen in a subcapsular position. CT shows the lesions having a density of 20 HU and there is no enhancement with intravenous contrast medium. What is the most likely diagnosis?

(A) Infarction
(B) Lymphangioma
(C) Haemangioma
(D) Hamartoma

040. An 18 year old male patient with known Von Hippel Lindau disease is referred for abdominal imaging. Which of the following conditions would you not expect to see in association with this disease?

(A) Pheochromocytoma
(B) Serous cystadenoma of the pancreas
(C) Neuroendocrine pancreatic tumour
(D) Adrenocortical carcinoma

041. A 32-year-old man who fell of his bike in mid-air during a motor cross championship was brought into casualty with weakness of all four limbs and GCS of 10 out of 15. Initial CT showed a fracture dislocation at C7/T1. An MRI was organised given that there were clinical features of acute spinal cord injury. All of the following findings are expected on the MRI, except

(A) Hyperintensity on T2W images
(B) Swelling of the spinal cord
(C) Hypo intensity on T2W images suggesting haemorrhage
(D) Atrophy of the spinal cord

042. A patient with a metastasis from a GIST tumour undergoes a contrast-enhanced CT study before and after chemotherapy. On the initial study, the lesion measures 5 cm in diameter and has a density of 100 HU. At follow up, the lesion measures 6 cm and has a density of 80 HU. How should you classify the response to chemotherapy?

(A) Complete response
(B) Partial response
(C) Mixed response
(D) Stable disease

043. Regarding 2nd generation ultrasound contrast agents, which of the following statements is true?

(A) Hepatocyte-specific agents are of particular value in characterizing liver lesions
(B) Microbubbles persist for 30 minutes
(C) Excretion is mainly through biliary pathways
(D) Metastases are best seen in the delayed phase (2-5 min)

044. A 77 year old man presents with abdominal distension. A CT study of his abdomen and pelvis reveals nodular peritoneal thickening, omental cake and a stellate appearance within the mesentery. Some foci of calcification are evident. What is the most likely diagnosis?

(A) Tuberculosis
(B) Lymphoma
(C) Carcinoma
(D) Mesothelioma

045. A patient with liver disease is referred for ultrasonography assessment of their TIPS stent which has been in situ for 3 months. The Doppler study demonstrates a flow rate of 2.3 ms. What is this most likely to represent?

(A) Normal flow
(B) Arterio-venous fistula
(C) Stent stenosis
(D) Stent fracture

046. A 21-year-old man, who presented with a growing mass in the left testis of 2-3 months duration with a palpable, non-tender, firm nodule on the surface of the left testicle, on physical examination showed a well circumscribed hypoechoic mass with a concentric lamellar pattern of alternating hyper- and hypoechoic rings on US. What is the diagnosis?

(A) Tunica albuginea cysts

(B) Simple cyst of testis

(C) Epidermoid cyst

(D) Intratesticular varicocele

047. An 8-month old child is investigated for a 5-month history of respiratory symptoms. Chest X-ray shows a right upper zone mass. MRI confirms the presence of a low Tl, high T2 signal, well-defined mass displacing the trachea to the left. There is homogeneous internal signal; the lesion is separate from the spinal canal. There is no associated vertebral anomaly and no widening of the neural foramina. The patient is afebrile. What is the most likely diagnosis?

(A) Neurofibromatosis

(B) Lateral meningocele

(C) Neuroenteric cyst

(D) Foregut duplication cyst

048. A 4-week-old neonate is being investigated for neonatal jaundice. Post-feed ultrasound of the abdomen demonstrates a normal looking distended gallbladder and no focal hepatic abnormality. A cholescintigraphy scan, also known as hepatobiliary iminodiacetic add (HIDA) or mebrofenin scan, demonstrates isotope in the urinary bladder at 24 hours. What is the most likely diagnosis?

(A) Choledochal cyst

(B) Transient neonatal hyperbilirubinaemia

(C) Biliary atresia

(D) Idiopathic hepatitis

049. In the staging of colorectal carcinoma, inferior mesenteric lymph nodes are considered distant metastasis rather than regional drainage for which tumour site?

(A) Ascending colon

(B) Transverse colon

(C) Descending colon

(D) Sigmoid colon

050. A 46 year old man presents with abdominal pain, fever and vomiting 5 weeks after an episode of acute pancreatitis. A CT study shows a well-circumscribed collection adjacent to the pancreas with an enhancing rim. What is the most likely diagnosis?

(A) Pseudocyst

(B) Pancreatic abscess

(C) Infective necrosis

(D) Acute pancreatitis

051. A 40-year-old man presents with acute onset of III cranial nerve palsy. The unenhanced CT shows subarachnoid blood. Where is the aneurysm likely to be?

(A) Anterior communicating cerebral artery

(B) Anterior cerebral artery

(C) Middle cerebral artery

(D) Posterior communicating cerebral artery

052. A patient with Hodgkin's lymphoma undergoes a PET-CT which shows a 10 x 5 cm nodal mass which is PET positive. Following 2 cycles of chemotherapy, the nodal mass measures 6 x 3 cm but there is no uptake of FDG within the mass. How should you report this study?

(A) Partial response

(B) Stable disease

(C) Mixed response

(D) Complete response

053. Which of the following tumours of the vermiform appendix is encountered most commonly?

(A) Adenocarcinoma

(B) Carcinoid

(C) Lymphoma

(D) Mucinous adenocarcinoma

054. A 39 year old man presents with epigastric pain, diarrhea, PR bleeding, exhaustion, and fatigue. He is noted to have a swelling of the jaw. On examination there are several calvarial lumps. CT head shows sebaceous cysts and bone lesions which are likely osteomas. OGD shows gastric hamartomas, colonoscopy shows multiple polyps throughout the colon. What is the most likely diagnosis?

(A) Cowden disease
(B) Gardner's syndrome
(C) Lynch syndrome
(D) Peutz-Jegher's syndrome

055. Which of the following is true of insulinomas?

(A) Men are affected twice as often as women
(B) Multiple lesions are seen in 25% cases
(C) They account for 25% of pancreatic endocrine tumours
(D) They are associated with MEN-I syndrome

056. A patient is referred for an abdominal radiograph and telephones the department to ask about radiation. What is the typical effective dose of a plain abdominal radiograph?

(A) 0.02 mSv
(B) 0.3 mSv
(C) 0.7 mSv
(D) 1 mSv

057. A patient with a biopsy proven cholangiocarcinoma undergoes imaging which demonstrates that the tumour is confined to the common bile duct. How would you classify this?

(A) Bismuth I
(B) Bismuth II
(C) Bismuth III
(D) Bismuth IV

058. A 56 year old patient presents with carcinoid syndrome and is found to have liver metastases. What is the most likely site of the primary lesion?

(A) Stomach
(B) Duodenum
(C) Small Bowel
(D) Appendix

059. A 42 year old man presents with a non-tender testicular lump. On examination he is noted to have gynaecomastia. The HCG, a-fetoprotein and lactate dehydrogenase levels are within normal limits. US demonstrates an irregular hypoechoic nodule. What is the most likely diagnosis?

(A) Choriocarcinoma
(B) Leydig cell tumour
(C) Lymphoma
(D) Seminoma

060. A 56 year man presents with hypertension and headache. He undergoes renal investigations which show a small right kidney on ultrasonography and prolonged nephrogenic phase on contrast enhanced CT. MR Angiography shows a 50% stenosis in the right main renal artery 1 cm from the ostium. What is the most likely diagnosis?

(A) Atherosclerosis
(B) Fibromuscular dysplasia
(C) lnfrarenal aortic aneurysm
(D) Buerger's disease

061. A 26 year old, otherwise fit and well female patient is referred for a pelvic ultrasonography (US) as part of her routine investigations for infertility. US shows an 8 cm right complex adnexal mass with echogenic and anechoic components. CT shows a mass of fat density floating in an interface between two water density components. MRI shows a hyperintense mass on T2W lesion with a fluid-fluid level. What is the likeliest diagnosis?

(A) Tubo-ovarian abscess
(B) Endometrioma
(C) Ovarian carcinoma
(D) Dermoid cyst

062. A 30 year old man presents with bilateral loin pain. KUB Radiograph shows coarse granular calcification widely distributed in the region of the renal pyramids. US shows increased echogenicity of the renal pyramids with some posterior acoustic shadowing. Which of the following is least likely?

(A) Alport syndrome
(B) Medullary sponge kidney
(C) Milk-alkali syndrome
(D) Hyperparathyroidism

063. A 38 year woman who had undergone breast augmentation for cosmesis 5 years earlier presents complaining of loss of contour of her left breast and some associated pain. MRI shows multiple hypointense wavy lines within the implant. What sign is described?

(A) McGregor's sign
(B) Rubber band sign
(C) Linguine sign
(D) Wire sign

064. A 32 year old woman with a history of multiple previous basal cell carcinomas of the skin undergoes a pelvic ultrasonography. This shows a 5 cm solid-looking hypoechoic left ovarian mass. MRI shows the mass is well circumscribed, relatively homogeneous and of low signal intensity on T1 and T2. What is the most likely diagnosis?

(A) Ovarian adenocarcinoma
(B) Cystadenocarcinoma
(C) Brenner tumour
(D) Ovarian fibroma

065. A 10 year old boy, recently arrived from the Indian subcontinent, presents with vague abdominal distension and discomfort. Ultrasonography shows bilateral multiple, non-communicating, well defined cystic lesions in the peripelvic region, renal parenchyma and in the perirenal spaces. CT shows the lesions to be homogeneous with no significant contrast enhancement. At MRI the lesions were of low signal intensity on T1W and high signal intensity on T2W, again without enhancement. Needle biopsy showed areas of connective tissue with an endothelial lining. What is the likeliest diagnosis?

(A) Multicystic dysplastic kidney
(B) Multilocular cystic nephroma
(C) Tuberculosis
(D) Renal lymphangiectasia

066. A 30 year old patient is admitted with multiple stab wounds to the lower abdomen. His pulse is 110/min and his blood pressure 80/40 mm Hg after fluid resuscitation. He has frank haematuria. A urethral catheter is passed freely and a normal cystogram performed in the emergency department. Initial CT in the portal venous phase with shows free fluid in the pelvis towards the right side but no major injury to the solid viscera. A ureteric injury is suspected. Which imaging investigation would you recommend next?

(A) Single shot IVU
(B) Full IVU with delayed phase imaging
(C) Ultrasound kidneys
(D) Retrograde ureterogram

067. A 60 year old man presents with frank haematuria. Cystoscopy demonstrates a transitional cell carcinoma of the bladder. Which of the following statements is true regarding his staging investigations?

(A) CT has no role
(B) Extension of the tumour into the outer half of the muscle layer is stage T2a disease
(C) At MRI tumour is isointense to muscle on T1W and hyperintense on T2W
(D) T2W is the optimal sequence to detect extension into perivesical fat

068. A number of special techniques are employed in mammography as opposed to conventional radiography. Which of the following is not included in this category?

(A) The use of a molybdenum target
(B) The use of a tungsten target
(C) A low tube current
(D) A focal spot size of 0.3 mm

069. A 60 year old woman undergoes a CT pulmonary angiography. Incidental note is made of a solitary lesion within her breast. Which of the following is more supportive of this being a benign process?

(A) Irregular margin
(B) Irregular shape
(C) Rim enhancement
(D) Large calcifications

070. A 37 year old female patient with suspected pelvic malignancy undergoes an MRI with diffusion weighted imaging. There is an area of slight T2 hyperintensity which shows high signal intensity on high b-value source images and decreased signal on the ADC map. What is the most likely diagnosis?

(A) Liquefactive necrosis
(B) Fibrous tissue
(C) T2 shine through
(D) High-cellularity tumour

071. A 48 year old female patient presents to the breast clinic with a painless breast lump. Clinical examination reveals a firm 2 cm mass in the right upper outer quadrant. Mammography shows a round, well defined soft tissue opacity in the corresponding location. Which of the following features on Ultrasonography suggest a malignant rather than benign cause?

(A) It is taller than it is wide
(B) It is markedly hyperechoic
(C) It has a thin echogenic capsule
(D) It has 3 lobulations

072. A 35 year old woman presents with a history of loin pain. CT shows a large perinephric haematoma. She cannot recall any significant trauma other than whilst playing with her child. Which of the following is the least likely cause?

(A) Multicystic dysplastic kidney
(B) Renal cell carcinoma
(C) Autosomal dominant polycystic kidney disease
(D) Polyarteritis nodosa

073. A 3 year old undergoes CT of the abdomen which shows an 8 cm heterogeneous enhancing mass which does not extend across the midline, but which displaces major vessels. Which of the following conditions is not associated?

(A) Cryptorchidism
(B) Hypoplasia of the iris
(C) Hemihypertrophy
(D) Proptosis

074. A 3 year old presents with central epigastric pain. Blood tests reveal a raised amylase. Which of the following is the least likely cause?

(A) Choledochal cyst
(B) Cystic fibrosis
(C) Henoch-Schonlein purpura
(D) Non-accidental injury

075. A 15 year old boy is under investigation for hypertension. The serum catecholamines and urinary VMAs are raised. CT abdomen confirms a left adrenal pheochromocytoma and additionally shows multiple cysts within the liver, pancreas and both kidneys. Which of following additional features would you look for?

(A) Bilateral acoustic neuromas
(B) CNS haemangioblastomas
(C) Iris hamartomas
(D) Parathyroid adenomas

076. An antenatal ultrasonography performed at 20 weeks demonstrated a right renal pelvis with an AP diameter of 5 mm. A 32 week scan shows the diameter to be 10 mm. The post-natal US at 4 days confirms unilateral right-sided neonatal hydronephrosis. What is the commonest cause of these findings?

(A) Ectopic ureterocele
(B) Pelvi-ureteric junction obstruction
(C) Posterior urethral valve
(D) Prune-belly syndrome

077. An 18 month old child presents with an unwitnessed head injury. There are elements of the history which appear inconsistent. The CT head examination demonstrates a subdural haematoma. Which of the following findings are least specific for non-accidental injury?

(A) Associated presence of retinal haemorrhage
(B) Bilateral SDHs
(C) lnterhemispheric (falx) SDH
(D) SDH underlying a skull fracture

078. A 3 year old boy presents with abdominal swelling. Ultrasonography and subsequent CT examination show a large 12 cm mass inferior to the liver. There is distortion of the renal parenchyma and apparent exophytic growth. There is poor enhancement and the aorta and IVC are displaced. Which of the following features is not a known association?

(A) Aniridia
(B) Cerebellar ataxia
(C) Horseshoe kidney
(D) Macroglossia

079. A neonatal male patient failed to pass meconium by 48 hours and was found to have an imperforate anus of the high malformation subtype. A colostomy was formed in the neonatal period and surgical repair completed in infancy. At the age of 5 Years the patient presents with a UTI. What is the likely underlying etiology of the UTI?

(A) Colovesical fistula
(B) Neurogenic bladder
(C) Pelvi-ureteric junction obstruction
(D) Rectourethral fistula

080. A 6 week old boy with a family history of developmental dysplasia attends the department for a screening US scan of the hips. Which of the following imaging findings constitutes abnormal result?

(A) 60° for alpha-angle
(B) 60° for beta-angle
(C) 60% of femoral head covered by acetabulum
(D) Femoral head lying inferio-medial to the Perkin's/ Hilgenreiner's line intersection

081. An infant presents within the first few weeks of life with stridor, respiratory distress, and wheezing. Chest X ray shows left deviation of the trachea, the lateral view reveals increased density in the region of the hilum. A pulmonary sling is suspected and a CT chest is arranged for further evaluation. Which of the following findings is most likely to be seen?

(A) Anterior trachea and anterior oesophageal compression
(B) Anterior trachea and posterior oesophageal compression
(C) No compression
(D) Posterior trachea and anterior oesophageal compression

082. A 65-year-old smoker presents with an achy pain around both his ankles. The GP orders ankle radiographs to look for degenerative change. The report comes back describing 'smooth, lamellar periosteal reaction with new bone formation in the distal diametaphyses of both tibiae'. Which of the following is the most likely cause?

(A) Systemic lupus erythematosus
(B) Low-grade chronic osteomyelitis
(C) Rheumatoid arthritis
(D) Hypertrophic osteoarthropathy

083. A 15 year old boy under investigation for polyuria presents to Emergency department with an acute episode of dyspnea. Chest x ray reveals a small right-sided pneumothorax and lung cysts are noted: What is the most likely underlying diagnosis?

(A) Alpha 1-anti-trypsin deficiency
(B) Langerhans cell Histiocytosis
(C) Lymphangiomyomatosis
(D) Neurofibromatosis

084. Which of the following classifications of atria/viscera positioning relative to the midline is associated with the lowest frequency of congenital heart defects?

(A) Situs ambiguous
(B) Situs inversus/dextrocardia
(C) Situs inversus/levocardia
(D) Situs solitus/levocardia

085. A 3 week old boy presents with high output cardiac failure. On examination he has a mass within the right upper quadrant. CT shows a large heterogeneous mass with central areas of low density, occupying the entire left lobe of the liver. The mass enhances peripherally in the arterial phase. What is the most likely diagnosis?

(A) Haemangioendothelioma
(B) Haemangiopericytoma
(C) Hamartoma
(D) Hepatoblastoma

086. Which of the following is not a feature of holoprosencephaly?

(A) Single ventricle
(B) Fused thalami
(C) Absent corpus callosum
(D) Tectal beaking

087. A 47 year-old obese male patient with long-standing fatty liver infiltration and a strong family history of hepatic cirrhosis underwent liver biopsy, which confirmed the diagnosis of non alcoholic steatohepatitis (NASH). He is to be followed up with imaging to exclude progression to cirrhosis. Which radiological feature is not typical for NASH?

(A) Low attenuation of the liver on computed tomography
(B) High signal of liver on T1W magnetic resonance imaging
(C) Irregular liver contour
(d) Hepatomegaly

088. A neonate has bile stained vomiting post feeding. The abdominal radiograph shows a 'double bubble' sign? Which of the following conditions is the least likely underlying cause?

(A) Annular pancreas
(B) Duodenal atresia
(C) Ladd's bands
(D) Pyloric stenosis

089. A request is made for an MRI examination in a neonate. An antenatal ultrasonography had revealed agenesis of the corpus callosum. The MRI scan shows an abnormal posterior fossa. Which of these features make Dandy-Walker a more likely diagnosis than Chiari II malformation?

(A) Hydrocephalus
(B) Klippel-Feil anomaly
(C) Large posterior fossa
(D) Syringohydromyelia

090. A pregnant mother with low alpha-feto protein, increased beta HCG and decreased unconjugated oestriol on screening is considered high risk for carrying a baby with Down's syndrome. An 18 week anomaly US is arranged. Which of the following findings indicative of Down's syndrome is least likely to be seen?

(A) Cystic hygroma
(B) Duodenal atresia
(C) Omphalocoele
(D) Increased nuchal thickness

091. Regarding duplication cysts of the gastro-intestinal tract in neonates. Where is the commonest location?

(A) Duodenum
(B) Ileum
(C) Jejunum
(D) Oesophagus

092. A patient presents with a slowly progressive loss of vision. Enlargement of the optic nerve is seen on MR imaging. Which of the following features would be more in keeping with an optic nerve glioma, rather than an optic nerve sheath meningioma?

(A) Unilateral lesion
(B) Calcification
(C) Kinking of the optic nerve
(D) Hyperostosis

093. A female child has problems with upward gaze. A CT head reveals a densely-enhancing pineal mass with 'exploded calcifications'. There is evidence of CSF seeding. Which other tumour type is this condition associated with?

(A) Retinoblastoma
(B) Teratoma
(C) Meningioma
(D) Pilocytic astrocytoma

094. A 76 year man presents with right-sided weakness. There is a low-attenuation lesion in the left basal ganglia. An MRI is arranged for further evaluation. Which feature would suggest a high-grade neoplasm rather than an infarct?

(A) Involvement of both cerebral cortex and juxtacortical white matter
(B) Gyriform enhancement
(C) Low signal on an apparent diffusion coefficient image
(D) Elevated choline on magnetic resonance spectroscopy

095. An incidental cerebral arteriovenous malformation is noted on MR imaging. Which of the following features is associated with a better prognosis?

(A) Nidus larger than 3 cm at angiography
(B) Location in eloquent brain
(C) Superficial venous drainage
(D) Osler-Weber-Rendu syndrome

096. An elderly gentleman presents with a hemiplegia. CT perfusion imaging is performed. Mean transit time (MTT), cerebral blood volume (CBV) and cerebral blood flow (CBF) were calculated. Which of the following would suggest the presence of an ischemic penumbra?

(A) Increased MTT, increased CBV and increased CBF
(B) Increased MTT, decreased CBV and increased CBF
(C) Increased MTT, increased CBV and decreased CBF
(D) Decreased MTT, increased CBV and decreased CBF

097. A demented, 60 year old gentleman with a gait apraxia and urinary incontinence is noted to have hydrocephalus on a CT Head. No obstructive lesion is found, and a trial of CSF withdrawal provides some clinical improvement. Given the most likely diagnosis, which of the following would be an unexpected finding?

(A) Periventricular high signal on FLAIR imaging

(B) Radiotracer accumulation in the lateral ventricles after instillation of ^{111}In-DTPA via lumbar puncture

(C) Downward bowing of the corpus callosum

(D) Normal opening pressure at lumbar puncture

098. An elderly, hypertensive man is found collapsed. CT imaging demonstrates a large intracerebral haematoma. The mean CT attenuation is 70 HU, and there are fluid/ fluid levels. How old is the haematoma likely to be?

(A) 0-2 hours (B) 3-48 hours

(C) 3-7 days (D) 2-4 weeks

099. A 65-year-old female patient with known disseminated renal cell cancer presents with increasing abdominal pain and distension. A computed tomography (CT) scan is performed which reveals moderate ascites and mild hepatomegaly. Portal venous phase images show geographic liver and hyperenhancement of a normal-size caudate lobe. On delayed images, a characteristic 'flip-flop' pattern of enhancement is observed. Which of the following is the most likely underlying diagnosis?

(A) Portal vein thrombosis

(B) Acute Budd-Chiari syndrome

(C) Liver congestion secondary to fluid overload

(D) Peliosis hepatis secondary to chemotherapy

100. An elderly man is admitted for assessment of focal neurological symptoms. An incidental supratentorial cystic lesion is demonstrated. Which of the following features would make the diagnosis of subdural hygroma, rather than arachnoid cyst, more likely?

(A) Isointense to CSF on T1W MR imaging (B) Mass effect

(C) lsointense to CSF on T2W MR imaging (D) Bony remodelling

101. A young woman with a family history of a movement disorder presents with rigidity and bradykinesia. MR imaging reveals prominent, localized areas of central high T2W signal within both globus pallidi-although this appears to be on a background of generally decreased signal within these nuclei. Decreased T2W signal is also found in the red nuclei and substantia nigra. What diagnosis is suggested by these appearances?

(A) Hallervorden-Spatz syndrome (B) Huntington's chorea

(C) Wilson's disease (D) Cerebrotendinous xanthomatosis

102. A middle aged man is found collapsed, with a GCS of 5/15. A CT head (performed without intravenous contrast medium administration) reveals increased attenuation material within the basal cisterns, superior cerebellar cistern and cortical sulci. Which of the following conditions is not associated with the likely underlying diagnosis?

(A) Intra-cerebral arterio-venous malformation

(B) Eclampsia

(C) Hypertension

(D) MELAS

103. A patient presents with headache. A CT head is performed. After the administration of intravenous contrast medium, a dural pattern of enhancement is noted. Which of the following is most likely to produce this pattern?

(A) Infarction
(B) Intracranial hypotension
(C) Subarachnoid haemorrhage
(D) Sturge-Weber syndrome

104. Plain skull radiographs are performed. A possible abnormality is identified, and a CT head is requested. Which of the following measurements is abnormal?

(A) The tip of the odontoid process is 7 mm above McGregor's Line
(B) The basal angle is 130 degrees
(C) There are 3 Wormian bones
(D) The largest Wormian bone is 3 x 3 mm

105. A man is brought into A&E unconscious after near drowning. His GCS was 5/15. A CT head was performed. Which of the following imaging features would be unusual for this condition?

(A) Diffuse cerebral oedema
(B) Loss of grey-white distinction
(C) Surface blood vessels which appear dark relative to brain
(D) Relative sparing of the cerebellum

106. A patient presents with suspected neurofibromatosis type I. Of the following lists of features, which would not be sufficient to make the diagnosis?

(A) 6 cafe-au-lait macules and two neurofibromas
(B) A Lisch nodule and an optic nerve glioma
(C) Thinning of long bone cortex and axillary freckling
(D) A first-degree relative with NF-1 and inguinal freckling

107. An adolescent presents to A&E after trauma and facial radiographs are taken. No fracture is seen, but incidental note is made of a cystic lesion, related to the crown of an unerupted tooth. It is unilocular. What is this most likely to represent?

(A) Radicular cyst
(B) Dentigerous cyst
(C) Primordial cyst
(D) Aneurysmal bone cyst

108. A pregnant lady patient presents with headache and a focal neurological deficit. A non-enhanced CT shows increased attenuation in the superior sagittal sinus. Following the administration of intravenous contrast medium, the dura surrounding the sinus enhances but the sinus itself does not. MR imaging is performed. Given the most likely diagnosis, which appearances would be unusual for this condition?

(A) Low T2W signal intensity at 2 days
(B) Iso/high T1W signal intensity in 20 days
(C) High T1W signal intensity in 10 days
(D) Low T2W signal intensity in 20 days

109. An MRI examination of the brain reveals multiple metastases which affect the superior orbital fissure, the optic canal and foramen ovale. Which of the following structures is least likely to be affected?

(A) 3rd cranial nerve
(B) Accessory meningeal artery
(C) 6th cranial nerve
(D) 2nd division of the 1st cranial nerve

110. An 18 year old male patient with known Von Hippel Lindau disease is referred for abdominal imaging. Which of the following conditions would you not expect to see in association with this disease?

(A) Pheochromocytoma
(B) Serous cystadenoma of the pancreas
(C) Neuroendocrine pancreatic tumour
(D) Adrenocortical carcinoma

111. Contrast CT scan shows an incidental renal cyst that is hyperdense with thick septations and a mural nodule. What is the Bosniak classification?

(A) Type 1
(B) Type 2
(C) Type 2F
(D) Type 3

112. A 33 year old man with short stature and normal intelligence is being investigated for lower back pain. MRI of the thoracolumbar spine shows marked central stenosis with short pedicles. A comment of bullet-shaped vertebra with progressive narrowing of the lumbar interpedicular distance was noted on the report. Which of the following conditions is most likely?

(A) Hurler's syndrome
(B) Congenital pituitary dwarfism
(C) Achondroplasia
(D) Thanatophoric dysplasia

113. 75-year-old woman is admitted under the physicians with confusion and dementia. She has a history of spontaneous intracranial haemorrhage and has been diagnosed with amyloid angiopathy. The most specific MR sequence for diagnosis of multifocal intracranial cortical subcortical microhaemorrhages in cerebral amyloid angiopathy is:

(A) T1W spin echo
(B) STIR
(C) T2W spin echo
(D) Gradient echo

114. An obese 25-year-old man presents with atypical chest pain. Cardiac MR demonstrates asymmetrical hypertrophy of the interventricular septum, primarily affecting the antero inferior portion. What is the most likely diagnosis?

(A) Hypertrophic obstructive cardiomyopathy
(B) Restrictive cardiomyopathy
(C) Myocardial infarction
(D) Dilated cardiomyopathy

115. A 21-year-old woman with infertility undergoes ultrasonography that shows a 2-cm right adnexal mass with posterior acoustic enhancement. Another multilocular cyst is seen in the left ovary. Further evaluation with MR shows multiple small lesions in both the ovaries and pouch of Douglas, which were hyperintense on fat-suppressed T1W images with shading sign on T2W images. What is the likely diagnosis?

(A) Dermoid
(B) Endometrioid carcinoma of the ovary
(C) Endometriosis
(D) PCOS (polycystic ovarian syndrome)

116. An 11-year-old boy with left shoulder pain has a shoulder X-ray, which shows a lucent lesion in the metaphysis. This has distinct borders and lies in the intramedullary compartment, it is orientated along the long axis of the humerus. What is the most likely diagnosis?

(A) Aneurysmal bone cyst
(B) GCT
(C) Simple bone cyst
(D) Chondroblastoma

117. **A 50-year-old builder is involved in a high speed RTA. CT is performed according to trauma protocol, demonstrating extra-peritoneal rupture of the bladder. Which of the following best describes this?**

(A) Contrast pooling in the paracolic gutters.

(B) Contrast outlining small bowel loops.

(C) Flame-shaped contrast seen in the perivesical fat.

(D) CT cystogram is usually normal.

118. **A 33-year-old woman with recurrent episodes of optic neuritis with waxing and waning upper limb weakness is referred for an MRI brain with high suspicion of demyelination. All of the following are MR features of acute multiple sclerosis (MS) lesions of the brain, except**

(A) High signal intensity on FLAIR

(B) 'Black hole' appearance

(C) Incomplete ring-like contrast enhancement

(D) Increase in size of lesion

119. **Which of the following MRI characteristics is typical of prostate cancer?**

(A) Low on T1 High on T2

(B) Low on T1 Low on T2

(C) Isointense on T1 High on T2

(D) High on T1 High on T2

120. **A newborn baby has US of the spine. At which level is the conus expected to be?**

(A) Above L1

(B) Above T12

(C) L2 to L3

(D) L3 to L4

121. **A middle aged woman presents with cough and haemoptysis. Her chest X ray reveals a large ovoid mass in the right lower lobe. She has a known history of Osler-Weber-Rendu syndrome. What is the most appropriate next imaging investigation that you will organise?**

(A) MRA of the pulmonary artery

(B) CT Pulmonary Angiography (CTPA)

(C) CTPA with portal phase images covering the liver

(D) Chest HRCT

122. **A 55-year old man with several episodes of epididymo-orchitis in the past has an ultrasound of the scrotum. The radiologist performing the scan notices several hypoechoic structures within the mediastinum testis and incidental epididymal cysts. There was no Doppler flow. What is the most likely diagnosis?**

(A) Lymphoma of the testes

(B) Cystic dysplasia of the testis

(C) Seminoma

(D) Cystic transformation of rete testis

123. **A known MS patient has presented to the neurologist with clinical features of involvement of the spinal cord. An MRI of the whole spine has been requested with a view towards assessment of the cord for possible multiple sclerosis (MS) plaques. MS lesions in the spinal cord occur most commonly in the**

(A) Cervical segment.

(B) Thoracic segment.

(C) Lumbar segment.

(D) Sacral segment.

124. A neonate presents with non-bilious vomiting with a palpable upper abdominal lump. Which of the following ultrasonography findings would not be in keeping with pyloric stenosis?

(A) Pyloric muscle thickness of 3.5 mm
(B) Target sign
(C) Pyloric canal length of 14 mm
(D) Antral nipple sign

125. A 60-year-old heavy smoker presents with haematuria. Ultrasonography KUB shows a midline fluid-filled cavity with mixed echogenicity and calcification adjacent to the bladder wall. CT shows a focal low-attenuation enhancing mass along a cord-like structure extending from the bladder to the umbilicus. What is the most likely diagnosis?

(A) Complex urachal cyst
(B) Vescico urachal diverticulum
(C) Urachal adenocarcinoma
(D) Transitional cell carcinoma

126. A 3-year-old child with shortness of breath is diagnosed with tetralogy of Fallot. All of the following abnormalities may be associated with this condition, except

(A) Transposition of great vessels (TGA)
(B) Patent ductus arteriosus (PDA)
(C) Anomalous origin of coronary arteries
(D) Di George syndrome

127. A woman presents with infertility and undergoes a hysterosalpingogram. This demonstrates a uterus with two converging horns. A wide angle is seen at the roof of the uterus. Which uterine anomaly does the patient have?

(A) Uterine didelphys
(B) Septate uterus
(C) Arcuate uterus
(D) Bicornuate uterus

128. A 70-year-old pensioner has been referred for an abdominal ultrasound as part of a routine medical examination. He is fit and well with no significant past medical history. The scan demonstrates a small focal well-defined hyperechoic area in the right lobe of the liver showing posterior acoustic enhancement. The most likely differential diagnosis is

(A) Metastasis
(B) Fatty infiltration
(C) Liver cyst
(D) Capillary haemangioma

129. The causes of medullary nephrocalcinosis include all, except

(A) Hyperparathyroidism
(B) Renal tubular acidosis
(C) Medullary sponge kidney
(D) Alport's syndrome

130. A 40-year-old man undergoes a CT scan of the abdomen for recurrent abdominal pain. The precontrast scan showed bilateral renal calculi. A post-contrast scan showed several pancreatic lesions, measuring between 1 and 2 cm. What is the likely unifying diagnosis?

(A) MEN I
(B) MEN II A
(C) Insulinoma
(D) Glucagonoma

131. A 45-year old woman presents with a rapidly enlarging mildly painful breast mass over a period of few months. An urgent ultrasound is performed. The ultrasound shows that the mass measures 7 cm, filling up almost the entire breast with fluid-filled clefts in the tumour. What is the diagnosis?

(A) Inflammatory carcinoma
(B) Cystosarcoma phylloides
(C) Complex breast cyst
(D) Invasive lobular carcinoma

132. A child presents with intermittent abdominal pain, vomiting, and a right upper-quadrant mass. On clinical examination, blood is noted on rectal examination. A clinical diagnosis of intussusception is made. Where is the most common site of intussusception in this population group?

(A) Ileoileal
(B) Ileocolic
(C) Ileoileocolic
(D) Colocolic

133. A 29 year-old woman with fever, malaise, fatigue, intermittent pain and numbness in both hands and feet, and normal chest radiograph is referred for MRI thorax. MRI shows wall thickening of the origin of the right subclavian artery and both carotid arteries. What is the diagnosis?

(A) Moyamoya disease
(B) Takayasu arteritis
(C) Churg-Strauss disease
(D) PAN

134. A slimly built 60-year-old woman presents with anorexia, diarrhoea, and weight loss. Barium meal shows multiple filling defects in the stomach with thickened gastric rugae. Colonoscopy shows multiple colonic polyps. The top differential is

(A) Peutz-Jeghers syndrome
(B) Familial adenomatous polyposis
(C) Cronkhite-Canada syndrome
(D) Cowden syndrome

135. A 16 year old boy with progressive extra-pyramidal symptoms, dementia and positive family history was sent for an MRI brain by his neurologist. MRI showed bilaterally symmetric hyperintense signal changes in the anterior medial globus pallidus with surrounding hypointensity in the globus pallidus on T2W images, commonly described as 'eye of the tiger' sign. Caudate was normal and no other areas of signal change was demonstrated. What is the diagnosis?

(A) Wilson disease
(B) Huntington disease
(C) MELAS
(D) Hallervorden-Spatz disease

136. A 70-year-old man presents with rectal bleeding. Flexible sigmoidoscopy shows a circumferential tumour in the upper third of the anal canal. An MRI performed for staging shows loco regional lymphadenopathy. The lymph node group most likely to be involved is

(A) Superficial inguinal
(B) Common iliac
(C) Pudendal
(D) External iliac

137. A 35-year-old weightlifter presents to the orthopaedic clinic with pain in the right shoulder. An initial radiograph is normal and no abnormality is identified on US. An MRI is suggested for further evaluation; it reveals increased T2W signal changes with fatty atrophy of the teres minor muscle. What is the likely diagnosis?

(A) Parsonage Turner syndrome
(B) Spinoglenoid notch paralabral cyst
(C) Duchenne's muscular dystrophy
(D) Quadrilateral space syndrome

138. A 45-year-old male patient with low back pain, rectal bleeding and faecal incontinence is investigated with CT and MRI. CT shows an enhancing soft-tissue mass replacing the sacrum with areas of amorphous calcifications. On MRI, the lesion shows low to intermediate signal on T1W and high signal on T2W images. What is your diagnosis?

(A) Sacral meningocoele
(B) Sacral chordoma
(C) Central dural ectasia
(D) Rhabdomyosarcoma

139. A 3-year-old girl presents with a cough, temperature and hyperinflated left lower zone, elevating the left hilum. What is the likeliest diagnosis?

(A) Congenital lobar emphysema
(B) Viral pneumonia
(C) Cystic fibrosis
(D) Inhaled foreign body

140. Which statement is not associated with transient patellar dislocation?

(A) The medial patellar retinaculum frequently demonstrates high T2W signal changes.
(B) A tibial tuberosity to trochlear groove distance of <1.5 cm.
(C) Trochlear dysplasia is a predisposing condition.
(D) There is an increase in the ratio of the patellar tendon to the patellar length.

141. A 4 year-old boy falls off his bike and complains of neck pain. Which of the following features is worrying for a serious injury on plain cervical X-rays?

(A) Atlanto axial distance <5 mm
(B) Displacement of 6 mm of the lateral masses relative to the dens
(C) Absence of lordosis
(D) Disruption of the spinolamellar line

142. A young woman with a palpable nodule in the breast undergoes a contrast enhanced MRI breast for further evaluation. MRI demonstrates typical multiple non-enhancing internal septations. What is the diagnosis?

(A) Fibrocystic change
(B) Abscess
(C) Atypia
(D) Fibroadenoma

143. A 36-year-old male patient with acute exacerbation of low back pain shows an 8 x 5 mm intermediate signal fragment lying in the epidural space with signal characteristics closely matching the lower lumbar discs. However, no definite continuity can be established with any of the local discs. Inflammatory markers and white cell count are normal. The most likely cause for this appearance would be

(A) Disc extrusion
(B) Disc protrusion
(C) Meningioma
(D) Sequestrated disc

144. A young boy undergoes an Micturition cystourethrography (MCU), which shows reflux of contrast into the right ureter and pelvicalyceal system. The ureter and pelvicalyceal system are not dilated. What grade is the reflux?

(A) 1
(B) 2
(C) 3
(D) 4

145. A 17-year-old girl is newly diagnosed with Crohn's disease and an MR enterography has been requested for evaluation of the disease extent and distribution. All of the following arc late findings of Crohn's disease on MRE, except

(A) Fistulae
(B) Strictures
(C) Small bowel obstruction
(D) Ulcers

146. Skeletal survey is indicated as an investigation for all of the following, except

(A) Eosinophilic granuloma
(B) Multiple myeloma
(C) Non-accidental injury
(D) Skeletal metastasis

147. A central mass with homogeneous signal intensity is identified on MRI in the fourth ventricle of a 4-year-old child. Which of the following is the most likely diagnosis?

(A) Astrocytoma
(B) Medulloblastoma
(C) Ependymoma
(D) Pontine glioma

148. A 43-year-old woman currently on treatment for Crohn's disease needs to have her medication reviewed following the recommendation of the MDT. The gastroenterologist wants to perform a CT enterography to assess her disease status and response to treatment prior to the medication review. Which one of the following CT signs suggests inactive Crohn's disease?

(A) Increased mesenteric fat attenuation
(B) Mesenteric fibro-fatty proliferation
(C) Target sign
(D) A non-enhancing thickened bowel wall

149. A 36-year-old woman with small cystic lesions identified in the liver when she had an ultrasound assessment a year ago underwent a CT urogram for renal colic. The CT urogram revealed speckled calcification in the medulla of both kidneys. Review of an old IVU showed a striated nephrogram and filling defects in the proximal right ureter. What is the most likely diagnosis?

(A) Hyperparathyroidism
(B) Medullary sponge kidney
(C) Medullary cystic disease
(D) Acquired renal cystic disease

150. A 1 year-old infant is admitted with acute stridor. A viral cause is suspected. On AP chest radiography no foreign body is identified, but there is an inverted V appearance of the subglottic trachea. Which of the following is the most likely diagnosis?

(A) Foreign body
(B) Acute laryngotracheobronchitis
(C) Whooping cough
(D) Tracheobronchomalacia

151. A 53-year-old woman with a long-standing history of known Crohn's disease is referred for a CT enterography for assessment of disease status. Which one of the following statements regarding the CT evaluation of Crohn's disease is true?

(A) Perianal disease is uncommon
(B) A thickened hyper enhancing bowel wall is a sign of active disease
(C) Mural stratification implies perforation in the bowel wall
(D) The comb sign is a specific sign

152. A 53-year-old woman with upper abdominal discomfort was sent for an abdominal ultrasonography ,which showed a hypoechoic mass in the pancreas. A CT was performed, which reported a possible serous cystadenoma. Which one of the following statements regarding serous cystadenomas of the pancreas is true?

(A) They are rich in mucin.
(B) They are rich in glycogen.
(C) They have malignant potential.
(D) They appear only as a unilocular cyst on CT.

153. A 3-year-old girl is referred to an endocrine clinic with unilateral jaw swelling noted at the dentist. Her general practitioner has also reported that she has signs of precocious puberty. An X-ray of the facial bones demonstrates expansion of the frontal bone and right side of the mandible. She is likely to have which other associated condition?

(A) Neurofibromatosis
(B) Madelung deformity
(C) Lisch nodule
(D) Hyperthyroidism

154. A 54-year-old man with suspicious findings on ultrasonography was recommended for an MRI of the orbits for further evaluation. Sagittal MR images of the globe showed a focal area of thickening in the posterior aspect of the globe with hyperintense signal on T1W sequence and strongly hvpointense signal on T2W sequence. What is the diagnosis?

(A) Malignant melanoma of the choroid
(B) Rhabdomyosarcoma
(C) Coats' disease
(D) Neuroblastoma metastasis

155. A 77-year-old man with chronic inflammatory disease and renal failure is known to have secondary amyloidosis. All of the following are features of amyloid involvement of the respiratory system, except

(A) Interstitial septal thickening
(B) Cavitating nodules
(C) Focal amyloidoma
(D) Calcification of central airway

156. Which of the following is not a recognised radiographic finding in a patient with haemochromatosis?

(A) Chondrocalcinosis
(B) Arthropathy with iron deposition in the synovium
(C) Generalised increased bone density
(D) Joint space narrowing

157. Fetal MRI usually is performed in a scanner with a magnet strength of

(A) 0.5 Tesla
(B) 1.5 Tesla
(C) 1 Tesla
(D) 3 Tesla

158. Which one of the following statements regarding rheumatoid arthritis-associated thoracic manifestation is true?

(A) Thoracic involvement occurs early in the disease.
(B) Pleural effusions is usually bilateral.
(C) Cryptogenic organising pneumonia is a recognised pattern on HRCT in rheumatoid lungs.
(D) Fibrosis mostly affects the upper lobes.

159. A macrosomic neonate (secondary to maternal diabetes) is noted to be in mild respiratory distress following delivery by caesarean section (CS). A chest X-ray demonstrates mild cardiomegaly mild hyperexpansion and small pleural effusions of the lungs. No focal lung abnormality is seen. What is the most likely diagnosis?

(A) Respiratory distress syndrome
(B) Meconium aspiration
(C) Staphylococcal pneumonia
(D) Transient tachypnoea of the newborn

160. A 6-year-old boy presents with increasing pain within his upper back, which came on insidiously over a few weeks. The child is otherwise well. A radiograph of his thoracic spine reveals collapse of the T9 vertebral body. The disc spaces are preserved; there is no kyphosis, and no involvement of the posterior elements. Which of the following is the most likely diagnosis?

(A) Ewing's sarcoma
(B) Metastasis
(C) Tuberculosis
(D) Eosinophilic granuloma

161. An 81-year-old man with bilateral calcified and uncalcified pleural plaques, basal predominant fibrotic lungs and unilateral pleural effusion is sent for a CT scan with high suspicion of primary pleural mesothelioma. CT and pleural fluid aspirate confirmed mesothelioma. Which of these is not a feature of unresectability?

(A) Extension into peritoneal cavity
(B) Involvement of endothoracic fascia
(C) Pericardial involvement
(D) Multiple sites of extension into the chest wall

162. A 45-year-old man with ulceration of the nasal septum was investigated further with CT sinuses. CT showed bone destruction involving the nasal cavity, turbinates and paranasal sinuses without associated soft-tissue masses. Chest radiograph of the same person done to exclude infection showed multiple nodules of varying sizes.

(A) Churg-Strauss disease
(B) Ethmoid carcinoma
(C) Polyarteritis nodosa
(D) Granulomatosis with polyangitis

163. A 77-year-old man with a high-risk occupational history and progressive limitation of exercise tolerance was sent for a staging CT of the chest to investigate a persistent right-sided pleural effusion. All of the following pulmonary CT features are suggestive of asbestos exposure, except:

(A) Basal fibrosis
(B) Calcified pleural plaques
(C) Diffuse pleural thickening
(D) High-density consolidation

164. A Computed tomography (CT) chest is done in a 6-month-old girl with a history of premature birth, chronic lung disease and MRSA pneumonia. It shows a large gas-containing, thin-walled cavity in the right lung, consistent with a pneumatocele. All the following are true regarding a pneumatocele, except:

(A) They are gas-filled, thin-walled spaces surrounded by lung.
(B) They can be associated with lung contusion.
(C) Most pneumatoceles resolve spontaneously.
(D) Pneumatoceles do not cause mediastinal shift.

165. A 58-year-old patient is reported to have a carcinoid tumour of the gastrointestinal (GI) tract on an abdominal computed tomography scan. What is the most common primary site of GI carcinoids?

(A) Stomach
(B) Colon
(C) Rectum
(D) Appendix

166. A 53-year-old man with history of haematuria which shows a gel-like polypoid filling defect on cystoscopy is sent for an MRI. The MRI shows a low T1 signal, heterogeneous T2 signal (central high and peripheral low) lesion. On post-contrast T1W FS images, the peripheral portion enhances more than the central potion, resembling a ring-like pattern. What is the diagnosis?

(A) Endometriosis
(B) Inflammatory pseudotumour
(C) Malakoplakia
(D) Cystitis glandularis

167. A 65-year-old woman with progressive increase in knee pain and limited mobility is referred by her GP to have a plain X-ray of the knee. Plain films show bilateral chondrocalcinosis along with some other arthritic features. Which one of the following conditions is the most common cause of chondrocalcinosis?

(A) Calcium pyrophosphate dihydrate crystal deposition disease
(B) Hydroxyapatite crystal deposition disease
(C) Primary synovial osteochondromatosis
(D) Intraarticular synovial cell sarcoma

168. A 42-year-old man who sustained a comminuted acetabular fracture underwent a CT of his pelvis for further characterization and treatment planning. The CT report described it as an anterior column acetabular fracture. Which one of the following anatomic structures must be disrupted on the CT?

(A) Ilioischial line
(B) Iliopectineal line
(C) Sacroiliac joint
(D) Anterior wall

169. A 29 year old woman has come to the Emergency medicine department with 3 months history of shortness of breath after her second miscarriage. She had an episode of pulmonary embolism during her first pregnancy and epilepsy in her teens. Chest radiograph done in the Emergency medicine department shows progressive enlargement of cardiac silhouette and left-sided pleural effusion. What is the likely diagnosis?

(A) Systemic lupus erythematosus (SLE)
(B) Rheumatoid arthritis
(C) Wegner's disease
(D) Polyarteritis nodosa (PAN)

170. Abdominal computed tomography (CT) in a 57-year-old patient with non-specific abdominal pain demonstrates an elongated cystic mass in the expected region of the appendix. The lesion appears to be invaginating into the caecum and demonstrates curvilinear calcification in its wall. What is the most likely diagnosis?

(A) Lipomatosis of ileocaecal valve
(B) Carcinoid tumour of the appendix
(C) Mucocoele of the appendix
(D) Epiploic appendagitis

171. A 59-year-old patient is admitted with general lethargy, weight loss and gradual abdominal distension. Diagnostic work-up included an abdominal CT scan, which demonstrated thickening of the peritoneal surfaces and a large, multiloculated dense ascites, causing secondary scalloping of the liver edge. What is the most likely location of the primary tumour?

(A) Stomach
(B) Appendix
(C) Pancreas
(D) Liver

172. Chest radiograph of a currently asymptomatic 84-year-old man shows a large well-defined soft tissue density mass in the left apex with a sharp inferior margin. There is underlying rib abnormality, suggesting previous surgery and sheet-like pleural calcification in the left mid and lower zone. What is the diagnosis?

(A) Aspergilloma
(B) Plombage
(C) Pancoast tumour
(D) Bronchogenic cyst

173. An adult patient was admitted to hospital with abdominal pain, jaundice and a palpable epigastric mass. Ultrasound demonstrated isolated dilatation of the common bile duct with otherwise normal appearance of the proximal biliary tree. What is the most likely diagnosis based on the sonographic findings?

(A) Choledochal cyst
(B) Caroli disease
(C) Choledochocoele
(D) Common bile duct diverticulum

174. 31-year-old presented with a 3-month history of progressive leg weakness, sensory disturbance, urinary hesitancy, urgency and erectile dysfunction. He had treatment for sputum positive pulmonary TB 1 year ago. MRI of the spine shows clumping of nerve roots within the thecal sac and empty thecal sac sign. Intradural cysts are also seen. What is the most likely diagnosis?

(A) Discitis
(B) Cauda equina
(C) Arachnoiditis
(D) Diastomatomyelia

175. A patient is admitted to hospital with progressively worsening jaundice and raised bilirubin levels. Ultrasound of the abdomen, demonstrates a large hyperechoic focus casting a shadow within the neck of the gallbladder, causing secondary dilation of the common hepatic and intrahepatic bile ducts proximally. The distal common bile duct (CBD) was normal. What is the most likely diagnosis?

(A) Caroli disease
(B) Choledochocoele
(C) Caroli syndrome
(D) Mirizzi syndrome

176. A patient undergoes a routine abdominal ultrasound for generalised abdominal pain. Unfortunately, the spleen cannot be detected. Which of the following is the least likely cause for this?

(A) Myelofibrosis
(B) Sickle cell anaemia
(C) Polysplenia syndrome
(D) Traumatic fragmentation of the spleen

177. A 26-year-old woman who had an intrauterine contraceptive device (IUCD) coil inserted 6 years ago presents to her general practitioner complaining of right iliac fossa pain, constipation, night sweats and fevers. The practitioner refers her for a transvaginal ultrasound, which shows a right-sided convoluted cobra-shaped structure containing fluid echogenicity and some polypoidal outgrowths from the wall. Adjacent to this is a cystic left adnexal mass containing internal echoes. Which of the following is the likely diagnosis?

(A) Actinomycosis
(B) Appendix abscess
(C) Diverticulitis with pericolic abscess
(D) Migrated IUCD causing hydroureter

178. An 8-month-old boy presents with a right upper quadrant mass. Blood results reveal a raised alphafetoprotein (AFP). Ultrasound of the abdomen demonstrates a large 7-cm, hypervascular, heterogeneous hyperechoic mass in the liver with a few cystic regions. There is no vascular invasion. No renal or suprarenal lesions are present. Which of the following differential diagnoses is most likely?

(A) Hepatoblastoma
(B) Infantile haemangioendothelioma
(C) Hepatic haemangioma
(D) Mesenchymal hamartoma of the liver

179. A 13-year-old boy presents with symptoms and radiographic evidence of a slipped capital femoral epiphysis (SCFE). It is noted on his radiographs that the physes are generally wide with flaring of the metaphyses. Which of the following is the most likely diagnosis?

(A) Rickets
(B) Hypophosphatasia
(C) Blounts disease
(D) Achondroplasia

180. A 73-year-old woman with weight loss, previous history of endometriosis and a CA-125 of 983 ìg/mL, attends an magnetic resonance imaging (MRI) scan of the pelvis after a cystic mass with nodules was noted in the left adnexa on ultrasound. There is a 6 cm predominately unilocular cystic mass in the left adnexa, which is bright on T1W & T1W fat-saturated images with enhancing solid mural nodules along its wall. It remains high signal on fat-saturated imaging. Which of the following is the most likely diagnosis?

(A) Dysgerminoma
(B) Brenner tumour of the ovary
(C) Endometrioma
(D) Clear cell carcinoma of the ovary

181. A 32-year old lady presents with acute sudden onset headache to the Emergency medicine department. CT shows haemorrhage within the fourth ventricle. Which vessel is most likely to be involved?

(A) Anterior cerebral communicating artery
(B) Anterior cerebral artery
(C) Posterior cerebral artery
(D) Posterior inferior cerebellar artery

182. A 4-year-old child undergoes a Chest Radiograph for suspicion of chest infection. The request mentions that the child has a congenital cardiac anomaly, which is, as yet, untreated. No further information regarding the type of anomaly is provided. The only abnormalities you can detect on the Chest Radiograph include mild generalised cardiomegaly and increased pulmonary arterial flow. You note from the A&E department notes that the child is not cyanosed. What is the most likely diagnosis?

(A) Ebstein anomaly
(B) Ventricular septal defect
(C) Tetralogy of Fallot
(D) Atrial septal defect

183. A 68-year-old male patient presents with painless jaundice. Abdominal ultrasound reveals both intrahepatic and extrahepatic biliary dilatation. The gallbladder is thin walled and there are no gallstones. No other significant abnormality is detected, but the report mentions that "the pancreas was not visualized due to overlying bowel gas." What is the most likely underlying diagnosis?

(A) Pancreas divisum
(B) Pancreatic acinar cell carcinoma
(C) Pancreatic adenocarcinoma
(D) Pancreatic islet cell tumour

184. Pick's disease affects which of the following?

(A) Fronto-parietal lobe
(B) Temporo-parietal
(C) Temporo-frontal
(D) Parieto-occipital

185. An alcoholic patient is referred for an ultrasound from the Emergency Medicine department of your hospital. The request states that the patient has deranged liver function tests and raises the possibility of underlying liver cirrhosis. Which of the following findings would not help you to confirm this diagnosis?

(A) Caudate lobe hypertrophy
(B) Increased echogenicity of the liver parenchyma
(C) Coarse echotexture to the liver
(D) Decreased resistive index in hepatic artery

186. A 62-year old postmenopausal woman has a magnetic resonance imaging (MRI) scan to look for a hernia. In the right ovary is a 1 cm sharply demarcated low T1 and T2 signal solid mass with adjacent calcification. There is also a multilocular cystic lesion within the same ovary, containing multiple thin-walled septa. Which of the following is the most likely cause of the well-demarcated low-signal lesion?

(A) Ovarian fibroma
(B) Ovarian Brenner tumour
(C) Ovarian dermoid cyst
(D) Endometrioma

187. Which of the following is specific for osteomalacia?

(A) Brown tumour
(B) Looser zones
(C) Cloaca
(D) Cyclops lesion

188. A patient is diagnosed with *Helicobacter pylori* infection. Which of the following findings would you not expect?

(A) Gastric ulcer
(B) Duodenal ulcer
(C) Linitis plastica
(D) Polypoid gastritis

189. A *malformation* is defined as a congenital morphologic anomaly of a single organ or body part due to an alteration of the primary developmental program caused by a genetic defect. All of the following are examples of posterior fossa cystic malformation, except

(A) Blake's pouch cyst
(B) Dandy Walker malformation
(C) Arachnoid cyst
(D) Rhombencephalosynapsis

190. A young adult presented with complex partial seizures and amnesia. His MRI scan demonstrated T2 hyperintensity within the medial right temporal lobe, loss of hippocampal head digitations and dilatation of the ipsilateral temporal horn of lateral ventricle. Which of the following is the most likely diagnosis?

(A) Herpes simplex encephalitis
(B) Choroidal fissure cyst
(C) Mesial temporal sclerosis
(D) Early-onset Alzheimer's disease

191. A 39-year-old woman taking human menopausal gonadotrophins presents with pelvic pain, bloating and weight gain. On transvaginal ultrasound, both ovaries are enlarged and contain multiple bilateral cysts, some of which are 8 cm. There is also free fluid within the pouch of Douglas and surrounding the uterus. Which of the following is the most likely diagnosis?

(A) Large corpus luteal cysts
(B) Endometriomas
(C) Polycystic ovarian syndrome
(D) Ovarian hyperstimulation syndrome

192. The characteristic curve of the film screen system?

(A) Is the plot of a log of the optical density against the log relative exposure
(B) The base density is greater in tinted films
(C) The average gradient of the curve is independent of the grain size
(D) The curve moves to the right as sensitivity increases

193. When compression is used in mammography

(A) Its prime purpose is to immobilize the patient
(B) It reduces the proportion of scattered radiation reaching the film screens
(C) It reduced the total volume of the breast
(D) The applied force must be less than 50 kg force

194. Regarding the input screen of an image intensifier

(A) It must be perfectly flat for an undistorted image
(B) The outer layer is the input phosphor and is usually caesium iodide
(C) The inner side of the screen is the photocathode, which emits electrons when the x ray beams hits it
(D) The input phosphor is one large flat crystal

195. Nuclides with the same number of protons (isotope) but with a different number of neutrons

(A) Isotope
(B) Isotone
(C) Isomer
(D) Neutron

196. Thickness of emulsion intensifying screens

(A) 5 - 10 μm
(B) 50 - 100 μm
(C) 500 - 1000 μm
(D) 5000 - 10000 μm

197. **A restrained driver of a car involved in a high-speed road traffic accident is brought to the emergency department. He is hypovolemic, tachycardic and has a very tender abdomen. After stabilization, an urgent intravenous contrast-enhanced CT scan is performed which show features of significant mesenteric injury and the patient is immediately taken to Operation theatre. Which CT sign is not specific for significant mesenteric injury?**

(A) Mesenteric contrast extravasation **(B) Mesenteric fat infiltration**

(C) Mesenteric vascular beading **(D) Termination of mesenteric vessels**

198. **A 74-year old man with painless haematuria and weight-loss with irregular thickening of the bladder wall on Ultrasonography underwent an MRI for staging. MRI revealed focal plaque-like thickening in the bladder wall and areas of thin calcification on plain film. All of the following are recognized findings in squamous cell carcinoma of the bladder, except**

(A) Single enhancing bladder mass

(B) Papillary tumour with pure intraluminal growth

(C) Sessile enhancing tumour mass

(D) Calcification related to tumour

199. **A 69-year-old man with a history of non muscle invasive urothelial carcinoma of bladder treated with transurethral resection and intravesical BCG therapy presented with a firm palpable nodule on PR examination. MRI showed a low T2 signal lesion with high signal on Diffusion weighted MRI, low signal on ADC map and non-enhancement on subtracted contrast-enhanced images in the peripheral gland at 4 'o' clock. The findings were stable on an MR repeated at 9 months.**

(A) Prostatic carcinoma **(B) Post-inflammatory scar**

(C) Post biopsy haemorrhage **(D) Granulomatous prostatitis**

200. **A 2 year-old toddler is brought to the accident and emergency department by his mother with constant vomiting. During clinical examination the toddler is restless, dehydrated and shows the signs of peritonitis. The examining doctor also notices multiple bruises of different ages, skin lacerations and scars. Visceral trauma on a background of non-accidental injury (NAI) is suspected. Which of the following is not a common bowel injury associated with non-accidental trauma?**

(A) Small bowel rupture **(B) Shocked bowel syndrome**

(C) Intramural mesenteric haematoma **(D) Boerhaave syndrome**