



Question 1	
<b>History</b>	A 22 year old female presents with intermittent right lower quadrant pain.
<b>Imaging</b>	An Ultrasound was performed on 13 August 2007 A MRI was performed on 29 October 2007
<b>Findings</b>	<b>Modality 1: US</b> <ul style="list-style-type: none"><li>• Right sided complex adnexal mass</li><li>• Solid and cystic components</li><li>• Left ovary normal</li><li>• Uterus normal</li></ul> <b>Modality 2: MRI</b> <ul style="list-style-type: none"><li>• Lesion fat containing with high T1 and high T2 signal</li><li>• Fat content suppresses</li><li>• Also has cystic component, high t T2, low T1</li><li>• Uterus retroverted</li><li>• Physiological free fluid Pouch of Douglas</li></ul>
<b>Likely Diagnosis</b>	Ovarian Dermoid
<b>Differential</b>	N/A
<b>Further Investigation or Management</b>	Gynae referral



<b>Question 2</b>	
<b>History</b>	A 14 year old girl presented with a short history of painful left shoulder, on a background of longstanding swelling. Blue skin discolouration noted.
<b>Imaging</b>	An X-ray of the left humerus was performed on 28 September 2011 A MRI of the left shoulder was performed on 4 October 2016
<b>Findings</b>	<p><b>PURPOSE OF THIS CASE:</b></p> <p>The case is designed to establish that the trainee understands the classification and difference between vascular tumours and vascular malformations, in particular low flow malformations. This case has diagnostic plain film findings (phleboliths) indicating a venous malformation NOT haemangioma. The MRI show there is no lymphatic component.</p> <p><b>CONSIDER FAIL IF:</b></p> <ol style="list-style-type: none"> <li>1. The trainee thinks this is an aggressive/ malignant lesion OR</li> <li>2. Recommends a biopsy</li> </ol> <p><b>Modality 1: X-ray</b></p> <ul style="list-style-type: none"> <li>• Poorly defined proximal humeral soft tissue /subcutaneous mass</li> <li>• Multiple calcifications (phleboliths)</li> <li>• Normal bones</li> </ul> <p><b>Modality 2: MRI</b></p> <ul style="list-style-type: none"> <li>• Multi-compartmental soft tissue mass (deltoid muscle, subcutaneous)</li> </ul> <p><u>Features of low flow vascular malformation</u></p> <ul style="list-style-type: none"> <li>• T2 high signal tubular/serpentine channels = low flow venous channels</li> <li>• Channels enhance post gadolinium</li> <li>• Flow voids T1 and T2 = phleboliths</li> </ul> <p><u>Differentiating features</u></p> <ul style="list-style-type: none"> <li>• No cystic (lymphatic component)</li> <li>• No vascular flow voids so not a high flow lesion</li> <li>• No surrounding oedema</li> </ul>
<b>Likely Diagnosis</b>	Venous Malformation Left Proximal Upper Limb (IF say "low flow malformation" they can score 1)
<b>Differential</b>	N/A
<b>Further Investigation or Management</b>	Interventional Radiology Referral for possible sclerotherapy

<b>Question 3</b>	
<b>History</b>	A 41 year old female presented with crush injury to abdomen when 130kg man fell on patient.
<b>Imaging</b>	A CT was performed on 15 August 2012
<b>Findings</b>	<p><b>Modality 1: CT</b></p> <p><b>Major Findings:</b></p> <ul style="list-style-type: none"> <li>• 3cm defect in bladder dome best appreciated on Sagittal reformats</li> <li>• Bladder dome irregularity axial images</li> </ul> <p><b>Minor Findings:</b></p> <ul style="list-style-type: none"> <li>• Bibasal pulmonary contusion</li> <li>• Abdominal and pelvic free fluid</li> <li>• No other solid visceral injury</li> </ul>
<b>Likely Diagnosis</b>	Bladder rupture
<b>Differential</b>	N/A
<b>Further Investigation or Management</b>	CT Cystogram

<b>Question 4</b>	
<b>History</b>	A 21 year old female presented with acute cough.
<b>Imaging</b>	A CXR was performed on 19 August 2014 A CT was performed on 4 August 2014 A FDG PET-CT was performed on 11 August 2014 A Gallium-68 Dotatate PET-CT was performed on 22 August 2014
<b>Findings</b>	<p><b>CXR of 19/8/2014</b></p> <ul style="list-style-type: none"> <li>• Right hilar mass</li> <li>• Segmental collapse of the right lower lobe</li> </ul> <p><b>CT chest of 4/8/2014</b></p> <ul style="list-style-type: none"> <li>• Right hilar mass, calcified, obstructing bronchus intermedius</li> <li>• Anterobasal segmental collapse of the right lower lobe</li> </ul> <p><b>FDG PET-CT of 11/8/2014:</b></p> <ul style="list-style-type: none"> <li>• Right hilar mass – mild PET avid</li> </ul> <p><b>Gallium-68 Dotatate PET-CT of 22/8/2014:</b></p> <ul style="list-style-type: none"> <li>• Right hilar mass – strongly PET avid</li> <li>• Physiological uptake in spleen</li> </ul>
<b>Likely Diagnosis</b>	Carcinoid causing segmental collapse of the right lower lobe.
<b>Differential</b>	Bronchogenic carcinoma is to be considered an inappropriate differential.
<b>Further Investigation or Management</b>	N/A

<b>Question 5</b>	
<b>History</b>	A 42 year old female presented with one month history of right lower neck fullness and discomfort.
<b>Imaging</b>	A contrast enhanced CT was performed on 24 January 2013
<b>Findings</b>	<p><b>MAJOR FINDINGS</b></p> <ul style="list-style-type: none"> <li>• Well circumscribed, fusiform mass (approx. 8.5cm cc x 4.0cm AP x 4.5cm Transv)</li> <li>• Right infra-hyoid carotid sheath/space</li> <li>• Mainly low attenuation</li> <li>• No contrast enhancement</li> <li>• No calcifications</li> <li>• Splays CCA &amp; IJV (mildly compressed) – patency maintained</li> <li>• Thyroid and trachea displaced to contralateral neck without invasion, CCA displaced medially, posterior cervical space posterolaterally</li> <li>• Minor superior mediastinal extension</li> <li>• No abnormal lymphadenopathy</li> </ul> <p><b>MINOR FINDINGS</b></p> <ul style="list-style-type: none"> <li>• No prominent associated vessels</li> <li>• No contralateral lesion</li> <li>• Normal temporal bone, No bone or spine involvement</li> <li>• Minor paranasal sinus inflammatory change</li> <li>• Minor degenerative changes in cervical spine</li> <li>• No lung lesion</li> <li>• NF2 Exclusions noted – meningiomas, obvious spinal tumours etc</li> </ul>
<b>Likely Diagnosis</b>	Right infra-hyoid vagal schwannoma (Sympathetic Chain)
<b>Differential</b>	Vagal paraganglioma, Vagal Neurofibroma, (IJV thrombosis, Pseudoaneurysm)
<b>Further Investigation or Management</b>	Ultrasound to confirm vascularity and MRI for structural/spatial relationships

<b>Question 6</b>	
<b>History</b>	A 30 year old female with elevated GGT and ALP has lesions seen on an Ultrasound
<b>Imaging</b>	A MRI was performed on 13th July 2012
<b>Findings</b>	<p><b>Modality 1: MRI</b></p> <ul style="list-style-type: none"> <li>• Multiple hypervascular lesions in arterial phase</li> <li>• Rapid equilibration of all lesions in early venous phase</li> <li>• Many lesions, but not all, have central scars</li> <li>• Early contrast sequestration in some lesions-not all</li> <li>• Mild T2 hyperintensity</li> <li>• At 20mins, a few lesions sequester contrast</li> </ul>
<b>Likely Diagnosis</b>	Hepatic adenomas FNH
<b>Differential</b>	Hypervascular metastases
<b>Further Investigation or Management</b>	N/A

<b>Question 7</b>	
<b>History</b>	An unwell 30 year old female presents with a spiking temperature of 39 degrees and nausea and vomiting after a recent trip to Malaysia.
<b>Imaging</b>	A CT of the brain was performed on 7 November 2014 A MRI of the brain was performed on 12 November 2014
<b>Findings</b>	<p><b>Modality 1: CT</b></p> <ul style="list-style-type: none"> <li>• Swollen low attenuation TL - left</li> </ul> <p><b>Modality 2: MRI</b></p> <ul style="list-style-type: none"> <li>• Swollen High Signal TL – left: Uncus, T pole, PHG, Hippocampus, T stem, Insula, External capsule region, thalami – mild mass effect</li> <li>• Cortical restriction with WM vasogenic oedema</li> <li>• Leptomeningeal CE – temporal regions</li> <li>• Left &gt;&gt; Right</li> <li>• No Hemorrhage</li> </ul>
<b>Likely Diagnosis</b>	Primary diagnosis: HSV meningoencephalitis
<b>Differential</b>	N/A
<b>Further Investigation or Management</b>	LP: warn about local mass effect and inform team

<b>Question 8</b>	
<b>History</b>	A 65 year old female presents with increasing back pain for 2 months.
<b>Imaging</b>	A X-ray of the lumbar spine was performed on 9 September 2013 A MRI was performed on 7 October 2013
<b>Findings</b>	<p><b>Modality 1: X-ray</b></p> <ul style="list-style-type: none"> <li>• Destroyed pedicles T12</li> <li>• Transitional Anatomy at L5/S1</li> </ul> <p><b>Modality 2: MRI</b></p> <ul style="list-style-type: none"> <li>• Aggressive Malignant lesion T12 involving pedicles with accurate description of location and signal changes and preservation of cord etc</li> <li>• Also involvement of L1 on left</li> </ul>
<b>Likely Diagnosis</b>	Skeletal Mets? Primary
<b>Differential</b>	N/A
<b>Further Investigation or Management</b>	Search for other lesion – Bone Scan /CT/PET CT Other clinical recommendation.