

Block Q Investigations

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Source: Irfan Masood

Stroke

- Best initial test - Non contrast CT - most sensitive for detecting hemorrhagic stroke
- Diffusion weighted MRI - most accurate test for detecting ischemic stroke

Subarachnoid hemorrhage

- Best initial test - Non contrast CT
- Lumbar puncture - Investigation of choice
 - performed if CT is negative for hemorrhage or if presentation is > 12 hrs
 - Pressure increased
 - Color - Xanthochromia (yellow from RBC hemolysis within CSF)
 - RBCs and protein raised (blood in CSF is hallmark of SAH)
 - Glucose normal
- Definitive test to determine site of bleeding - Cerebral Angiogram

Multiple Sclerosis

- Gold standard - MRI with gadolinium (shows multiple asymmetric, often peri ventricular white matter lesions)
- CSF
 - Oligoclonal bands
 - Moderate lymphocytic pleocytosis
 - Increased myelin basic protein
 - increased IgG index

Transverse Myelitis

- MRI - Investigation of choice
- CSF
 - Oligoclonal bands absent
 - cellular pleocytosis

Meningitis

- Best initial test - Lumbar Puncture
- Most accurate test - Lumbar Puncture

Viral Encephalitis

- Best initial test - CT scan
- LP
- Presence of RBCs in CSF without a history of trauma is highly suggestive of HSV encephalitis

Brain Abscess

- CT Scan - best initial test - show ring enhancing lesion with a low density core
- Lumbar puncture should never be performed first. LP is not necessary and may precipitate brainstem herniation

Guillain Barre Syndrome

- CSF - Albuminocytologic dissociation (increased protein levels with normal leukocyte count)
- Most accurate test - Electromyography

Myasthenia Gravis

- Tensilon test/ Edrophonium test - Not routinely used
- Most accurate test - Electromyography
- Acetylcholine receptor antibodies

SLE

- Best screening test - ANA (Anti Neutrophilic antibody)
- Anti dsDNA - highly specific for SLE
- Anti Smith - highly specific for SLE
- Maternal Anti Ro antibodies (Anti SS-A) associated with neonatal lupus
- Anti histone antibodies positive in drug induced lupus

Limited cutaneous systemic sclerosis

- Anti centromere antibodies positive
- ANA positive

Diffuse cutaneous systemic sclerosis

- Anti topoisomerase antibodies (Scl-70) positive
- ANA positive

Sjogren Syndrome

- ANA positive
- RF positive
- Anti Ro (Anti SS-A) positive
- Anti La (Anti SS-B) positive
- Schirmer test
- Rose bengal staining
- Biopsy of lip or parotid gland - most accurate test

Dermatomyositis

- Creatine kinase elevated
- Aldolase elevated
- ANA positive
- Anti Jo 1 antibody positive - strongly associated with interstitial lung disease
- Muscle biopsy - most accurate investigation

Giant cell arteritis aka Temporal arteritis

- Duplex US of temporal arteries - first line imaging technique in suspected GCA
- Temporal artery biopsy - Gold standard - most accurate investigation
- Elevated ESR, CRP
- Normocytic normochromic anemia

Takayasu Arteritis

- Arteriography (Angiography) - most accurate test
- Raised ESR
- Normocytic normochromic anemia

Polyarteritis Nodosa (PAN)

- Angiography - performed on mesenteric or renal vessels - shows areas of dilatation and constriction (beading appearance)
- Biopsy - most accurate test
- Elevated ESR, CRP
- HBsAg positive in 30% cases
- Pulmonary arteries are spared

Microscopic Polyangiitis

- p-ANCA positive
- involves pulmonary capillaries

Granulomatosis with Polyangiitis (GPA) or Wegener's Granulomatosis

- c-ANCA positive
- CXR or CT chest
- Biopsy (lung, kidney, sinus) - most accurate test

Eosinophilic Granulomatosis with Polyangiitis (Churg Strauss Syndrome)

- CXR - Migratory pulmonary infiltrates
- ANCA positive (either p-ANCA or c-ANCA)
- Biopsy - most accurate test

Henoch Schonlein Purpura

- Skin biopsy - leukocytoclastic vasculitis with IgA and C3 deposition in vessel wall
- Renal biopsy - mesangial IgA deposition

Behcet Syndrome

- Positive pathergy test i.e pricking forearm with sterile needle results in pustule formation within 48 hours

Meckel's Diverticulum

- Most accurate - Technetium 99m (99mTc) pertechnetate scan (Meckel's scan)

- Small bowel enema
- CT abdomen and pelvis

Colonic Diverticula

- Investigation of choice for acute attacks - CT Abdomen and pelvis
- Investigation of choice for complications (e.g. Abscess formation) - CT Abdomen and pelvis
- Barium enema and colonoscopy - Contraindicated during acute attacks (risk of perforation and Peritonitis)
- Water soluble contrast enemas - helpful in large bowel obstruction
- Cystoscopy - best test for colovesical fistula

Carcinoid Tumor

- Best initial test - CT abdomen and pelvis
- If not seen on CT - Octreotide scan
- Chromagrannin A level - to monitor recurrence and prognosis

Colonic Carcinoma

- Best initial test - Colonoscopy + biopsy
- When colonoscopy contraindicated - Double contrast barium enema (Apple core appearance)
- Standard imaging for staging - CT Abdomen and pelvis
- CT chest for metastasis
- Most accurate test for liver metastasis - Intra operative US

Cirrhosis

- Best initial test - Abdominal US
- If adequate assessment with US not possible e.g bcz of obesity - CT Abdomen
- Endoscopy - for detection of varices
- MRI - for diagnosis of benign tumors
- Liver biopsy - Grading and staging of inflammation and fibrosis

Hirschsprung Disease

- Initial Imaging - Contrast Enema
- Supportive / Non invasive - Anorectal manometry
- Gold standard - Rectal suction biopsy
- Definitive if doubt - Full thickness biopsy
- Confirms diagnosis - Acetylcholinesterase stain

