

2.

Glasgow Coma Scale			
	Eye opening (E)	Motor response (M)	Verbal response (V)
Nil	1	Abnormal extension	Nil
Pain	2	Abnormal flexion	Incomprehensible
Verbal	3	Weak flexion	Inappropriate
Spontaneous	4	Localizing	Confused
		Obey command	Oriented fully

Coma= E2V2M4 or Less

DDX of Aphasia

Type	Speech	Comprehension	Repetition	Lesion
BA	Non fluent	Normal	Impaired	Lt post frontal
WA	Fluent	Impaired	Impaired	Lt post & middle temp cortex
CA	Fluent	Normal	Impaired	Lt super temporal and supramarginal
GA	Non fluent	Impaired	Impaired	Posterior to parietal
MTC	Non fluent	Normal	Normal	Ant or sup to B area
STC	Fluent	Impaired	Normal	Post or infer to W area

BA= Broca's aphasia, WA=Wernicke's A, CA=conduction A, GA=Global A, MTC=motor transcoital A, STC=sensory transcoital A

2) lesion affecting area demonstrated in the green arrow area causes

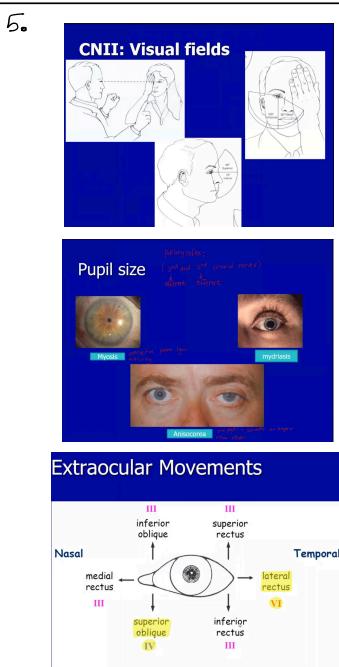
- A. conductive aphasia
- B. agnosia
- C. Broca's expressive aphasia
- D. Wernicke's receptive aphasia

4.

### Cranial nerves examination

Cranial N	Special	Motor	Sensory	Reflex
Olfactory	Smell	None	None	None
Optic	Visual acuity and fields, fundoscopy	None	None	Pupillary accommodation
Oculomotor	None	MR, SR, IR, IO, LPS, ciliary, pupillary constrictor muscles	None	Pupillary, accommodation
Trochlear	None	SOM	None	None
Trigeminal	None	Temporalis, masseters, pterygooids	Facial	Corneal, jaw
Abducens	None	LRM	None	None

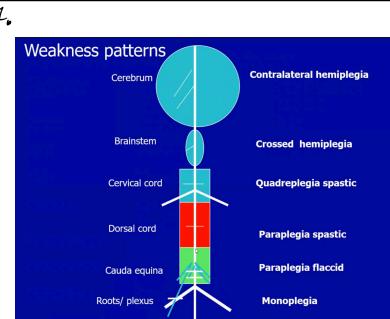
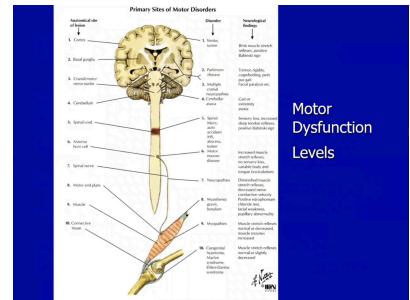
Cranial N	Special	Motor	Sensory	Reflex
Facial	Taste ant 2/3	Facial	EAM	Corneal
Vestibulocochlear	Balance, Hearing,	None	None	Oculovestibular
Glossopharyngeal	Taste post 1/3	stylopharyngus	pharyngeal	Gag
Vagus	None	Pharynx, Larynx	EOM	Gag
Accessory	None	SCM, TRZ	None	None
Hypoglossal	None	Tongue	None	None



6.

### MRC Scale for muscle power

- 0 No muscle contraction visible
- 1 Flicker of contraction but no movement
- 2 Joint movement when effect of gravity eliminated
- 3 Movement against gravity but not against examiner's resistance
- 4 Movement against resistance but weaker than normal
- 5 Normal power



- 4) Patient come with left tongue, face, arm and leg hemiparesis, what is the affected lesion
- A. Right cerebellum
  - B. Left cerebellum
  - C. Brain stem
  - D. Right cerebrum
  - E. left cerebrum
- 

8.

### Differential Features of Weakness

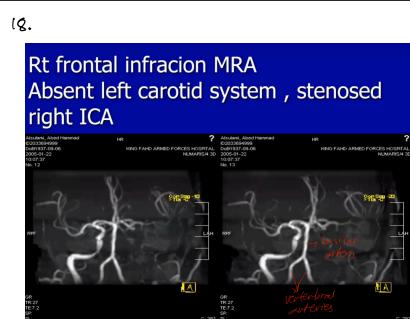
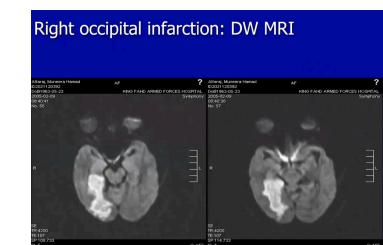
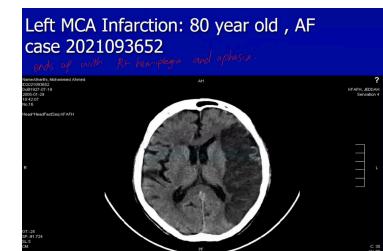
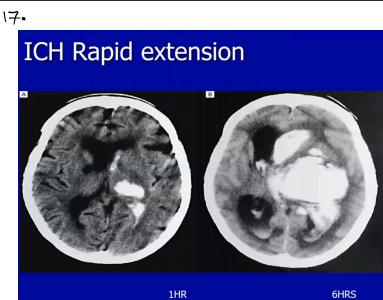
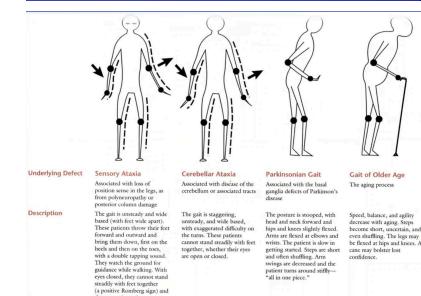
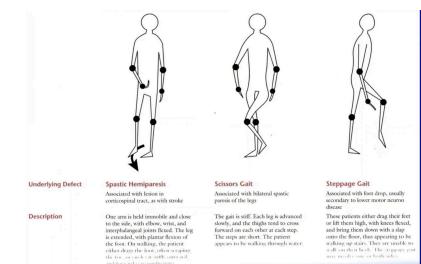
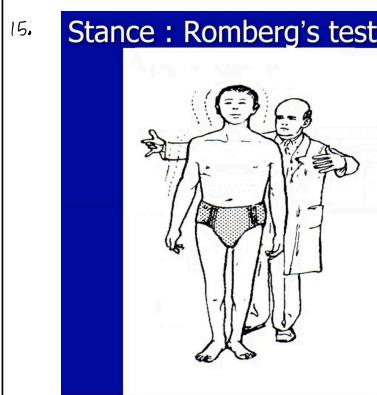
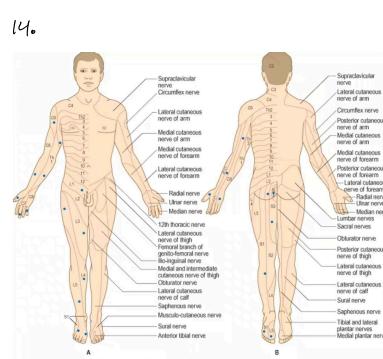
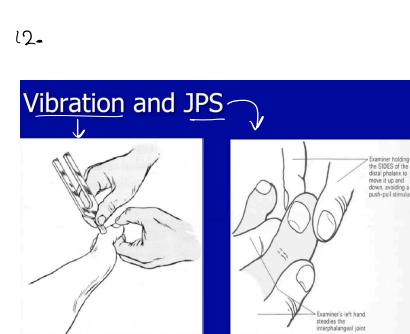
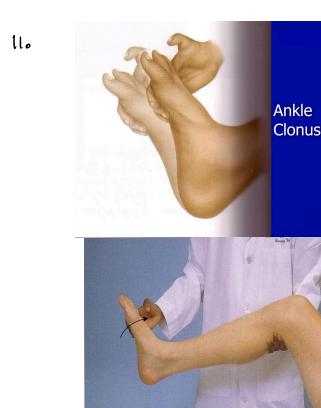
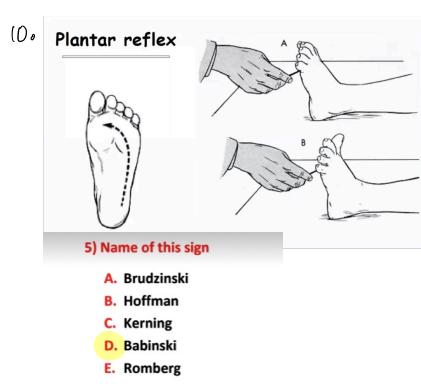
Feature	Upper motor Neuron	Lower motor Neuron
Power	Weak	Weak
Tone	Increased (spastic)	Decreased (flaccid)
Bulk	Normal	Atrophy
Reflexes	Increased (hyperreflexia)	Decreased (hyporeflexia)
Fasciculations	Absent	May be present
Babinski sign	Present	Absent
Distribution	Proximal > distal	distal > proximal

- 3) Choose the wrong match
- A. Tone
  - B. Babinski sign
  - C. Reflexes
  - D. Fasciculations
  - E. POWER

Feature	Upper motor Neuron	Lower motor Neuron
Power	Weak	Weak
Tone	Increased (spastic)	Decreased (flaccid)
Bulk	Normal	Atrophy
Reflexes	Increased (hyperreflexia)	Decreased (hyporeflexia)
Fasciculations	Present	Absent
Babinski sign	Present	Absent

\*deep tendon reflexes grading:

Grade	Description	comment
0	Absent	GBS
1+	Decreased	Neuropathy
2+	NORMAL	REFERENCE
3+	Increased	?anxiety
4+	Increased	Clonus



- 8) Name of the arrowed artery
- A. internal carotid artery  
B. PCA  
C. Vertebral artery  
D. MCA  
E. ACA



19.

### Spine MRI: extensive myelitis

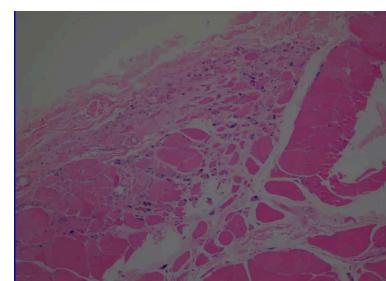


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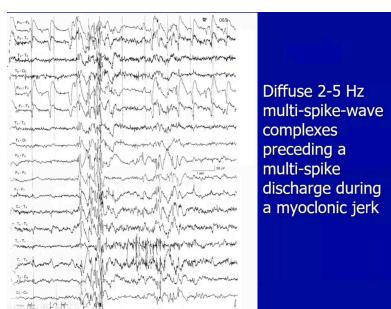
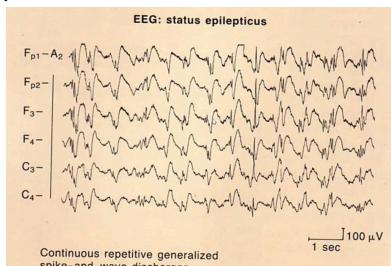
### Electroencephalogram



21. muscle biopsy.



22.



23.



### EMG (ELECTROMYOGRAPHY)



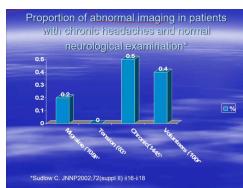
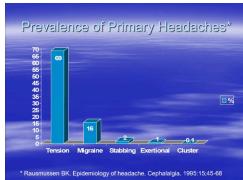
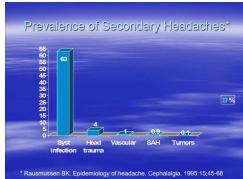
24.



### CSF : Inspection

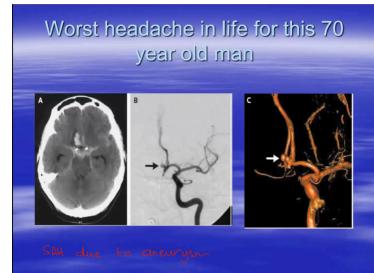


25.



26.

SAH due to aneurysm.



27.

Stroke with basal ganglia hemorrhage

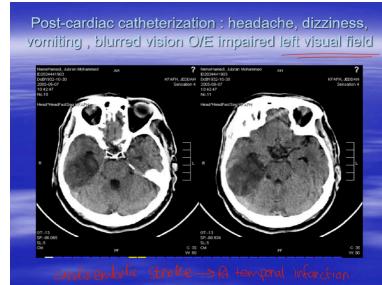


28. Sinus thrombosis



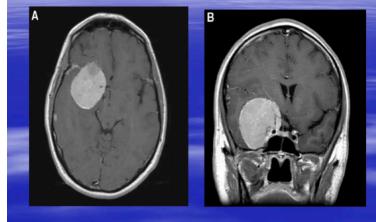
29.

Cardioembolic stroke → rt temporal inf.

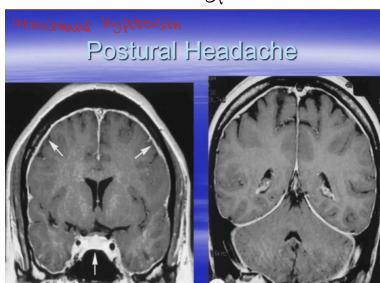


30.

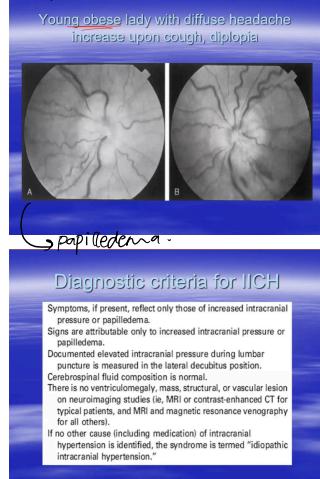
*Progressive headache.*  
Sphenoidal wing meningioma



31. intracranial hypotension.



32. idiopathic intracranial hypertension.



33.

Elderly with headache and rapid deterioration of vision



Giant cell arteritis, optic pallor.

\* ESR : 100.

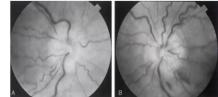
34.



35.

?) Young obese woman, BMI=39, Normal CT +neuroexam, with diffuse early morning headache increased with coughing and exertion

What is the next step?  
A. LP  
B. CRP  
C. Angiogram



36.

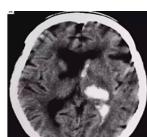
9) a patient comes with right hemiparesis, on CT this infarction was found, which of the following is not associated with this type of infarction

- A. A fib  
B. HTN is the most common cause  
C. it occurs in small arteries  
D. it can cause pure motor syndrome



37.

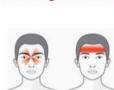
- 10) This picture shows  
A. Brain hemorrhage  
B. brain tumor  
C. edema  
D. Subarachnoid hemorrhage  
E. Epidural hematoma



38.

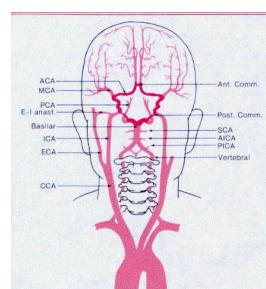
6) name the headache type in the first image on the left

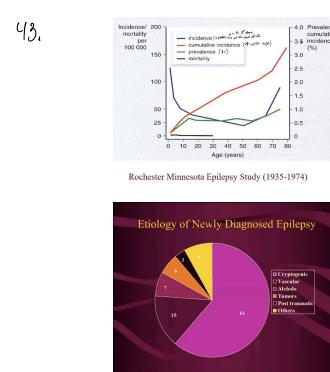
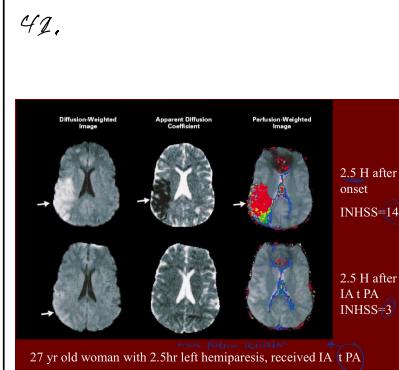
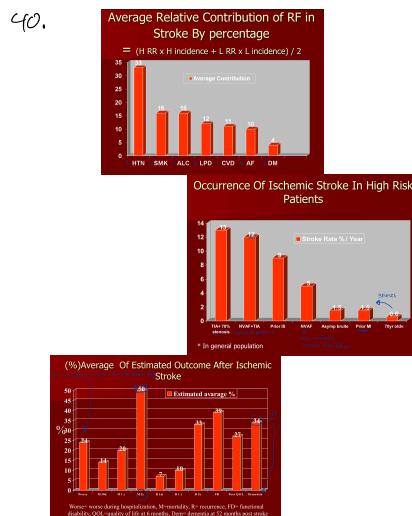
- A. Cluster  
B. Migraine  
C. Tension  
D. increased ICP  
E. Sinusitis



39.

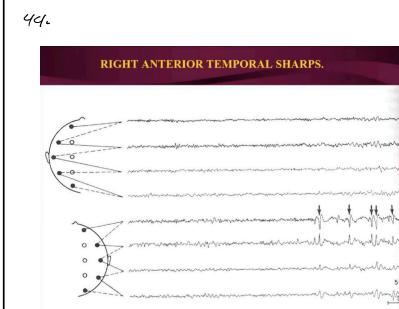
Cerebral blood Supply.  
Ant. Comm.  
Post. Comm.  
E. I-anat.  
Basilar  
ICA  
ECA  
CCA  
Ventral



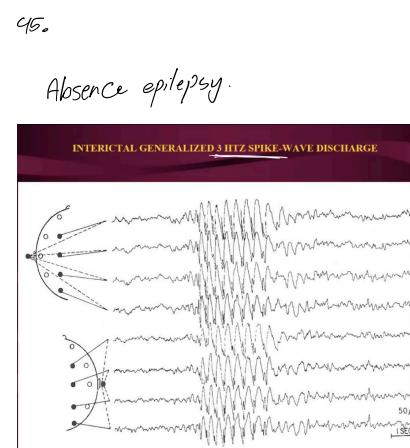


12) The most common cause of epilepsy showing 64 in the diagram is:

- A. Alcoholic
- B. Cryptogenic
- C. Vascular

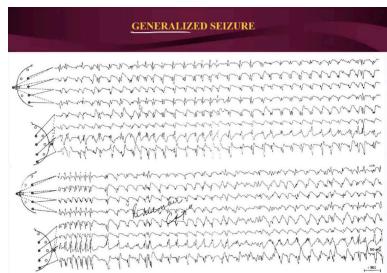


- 13) Type of this seizure?
- A. Petit mal
  - B. myoclonic
  - C. Partial
  - D. Generalized
  - E. grand mal

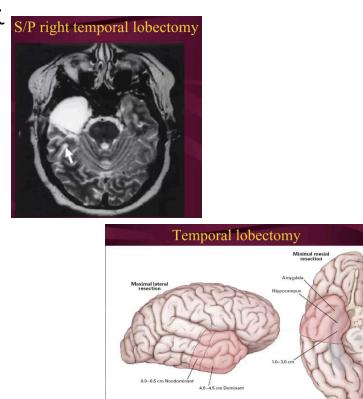


46.

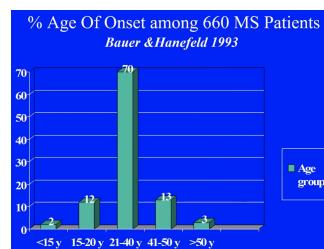
Tonic - Clonic .



47.



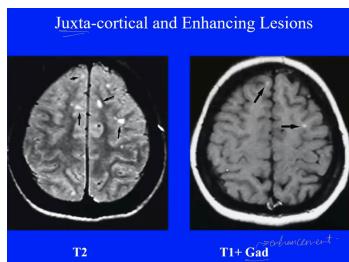
48.



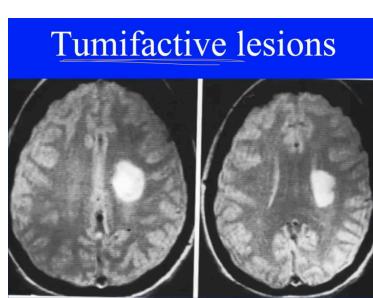
14) This figure represents age distribution for which neurological condition?

- A. Epilepsy
- B. stroke
- C. MS
- D. Dementia
- E. Meningitis

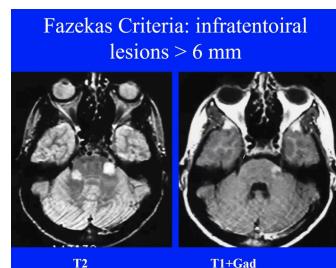
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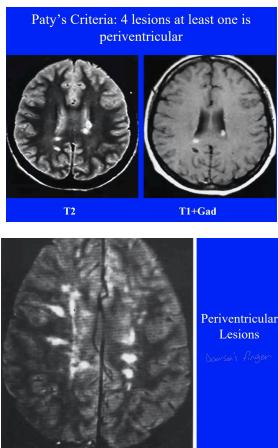
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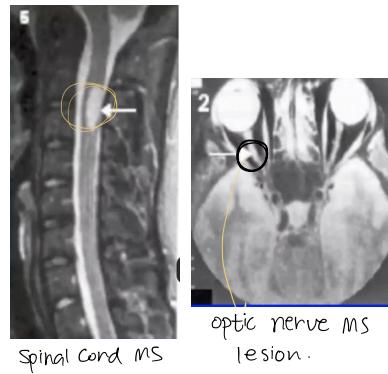
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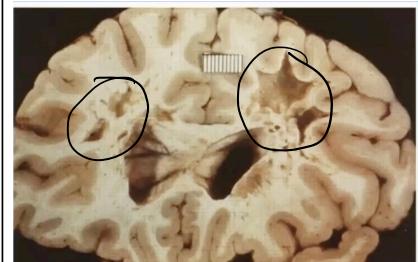
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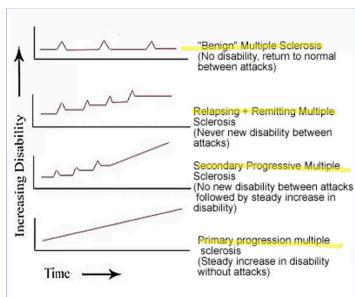
53.



54.

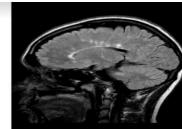


55.

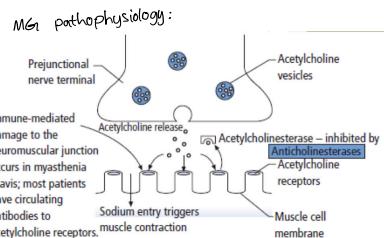


56.

- 15) This represents
- A. MS
  - B. SLE
  - C. Brain abscess
  - D. Sarcoidosis

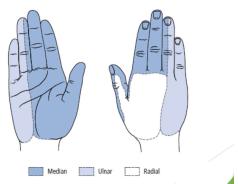


57.



58.

Cutaneous distribution of median ulnar and radial nerves



59.

Hereditary neuropathy CMT

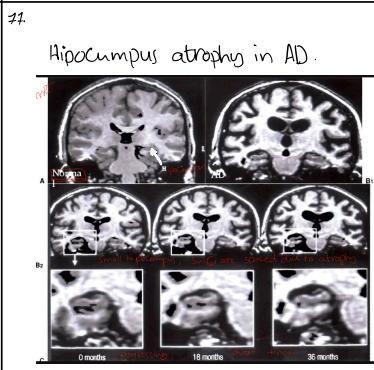
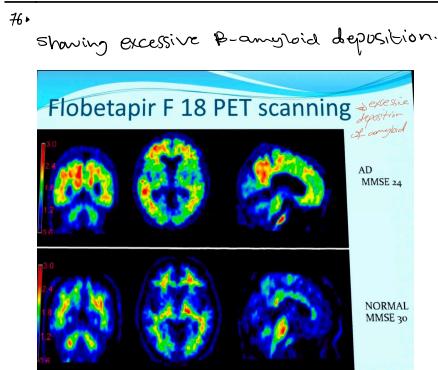
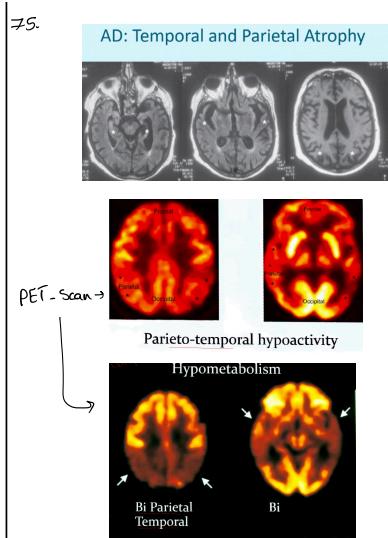
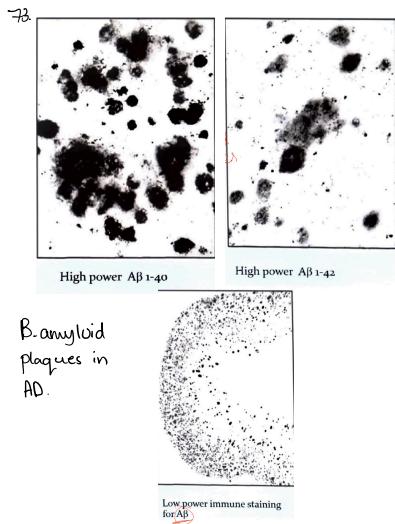


60.

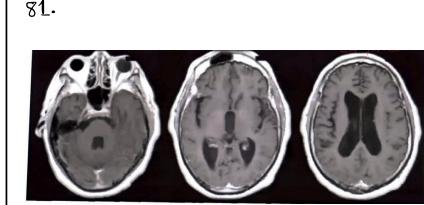
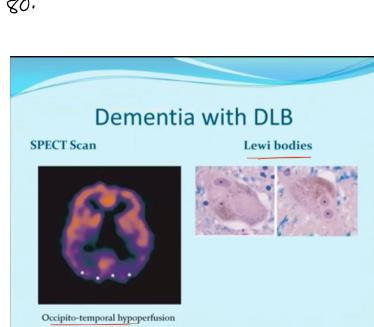
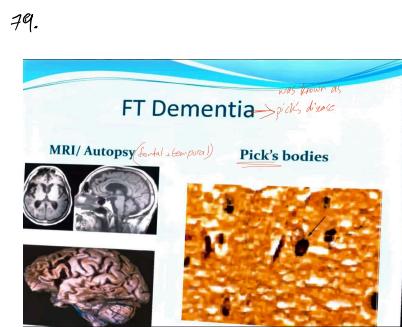
Cervical radiculopathy      C6/C7 disc prolapse







Vascular Dementia mostly due multi-lacunar hemorrhage.



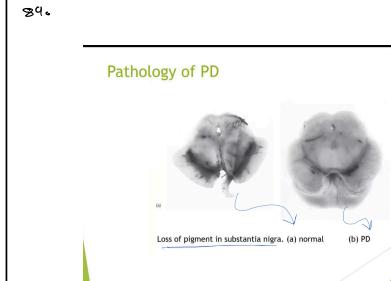
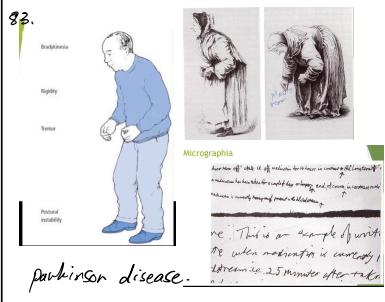
Normal pressure hydrocephalus

↳ triad of dementia, aphasia, urinary incontinence

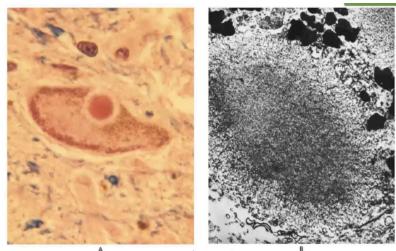
\* Normal CSF pressure but dilated ventricles

82.

	Delirium	Dementia
<b>Clinical Features</b>		
<b>Time</b>	Acute	Indolent
<b>Cause</b>	Fluctuating, with lucid intervals, worse at night	Slowly progressive
<b>Example</b>	Heat stroke	Memory loss
<b>Stop Watch Clock</b>	Altered level of alertness	Impaired judgment
<b>General Medical Disease or Trauma</b>	Either or both present	Others absent, especially in Alzheimer's disease
<b>Mental Status</b>		
<b>Level of Consciousness</b>	Delirious: Patient is clearly aware of the environment, but has difficulty maintaining orientation, or is confused, agitated, stuporous	Usually normal and like in the course of the disease
<b>Behavior</b>	Agitated,妄想, delusions, demands (overactive) or increased cognition, hyperactivity	Normal to slow, may become inappropriate
<b>Speech</b>	May be halting, slow or rapid, incoherent, slurring, dysarthria, fluent but effortful or variable in volume, speech arrest, dysphasia	Often flat, depressed
<b>Thought Process</b>	Disorganized, may be incoherent, illogical, repetitive, perseverative, distractible, echolalia, hallucinations, most often visual	Impaired, speech goes little information
<b>Language</b>	Echolalia, hallucinations, most often visual	Haloes around eyes
<b>Personality</b>	Impaired, often to a varying degree	Personality impaired over the course of the disease
<b>Orientations</b>	Usually well preserved, especially for time	Faultily well maintained, but becomes impaired as the disease progresses
<b>Attention</b>	A usually well-preserved ability to attend	Usually well-preserved and later in the disease
<b>Memory</b>	Recent memory and new learning especially impaired	Recent memory and new learning especially impaired
<b>Examples of Cause</b>	Delirious: drugs (e.g. withdrawal from alcohol), metabolic (e.g. heat stroke), infection, head injury, drugs (e.g. anticholinergics), dementia due to a brain tumor	Korsakoff's syndrome, dementia, alcohol-induced dementia, Lewy bodies, Pick's disease, Alzheimer's disease, vascular dementia (stroke and multiple infarcts), dementia due to a brain tumor



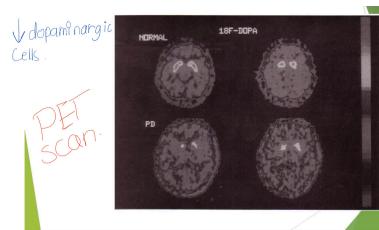
85.



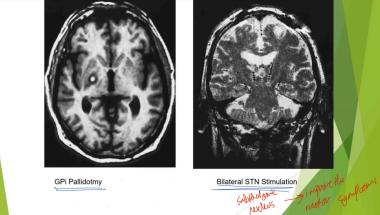
**Figure 2. A: Typical Lewy body (pathognomonic for PD)**  
Panel A shows the Lewy body in the cytoplasm of a pigmented dopaminergic neuron in the substantia nigra (hematoxylin-eosin and Luxol fast blue,  $\times 100$ ). Ultrastructural micrograph (Panel B) shows an accumulation of filaments and granular material with a dense core and loose radiating peripheral filaments ( $\times 10000$ ). Courtesy of Dr. Catherine Bergeron.

Lewy bodies in PD.

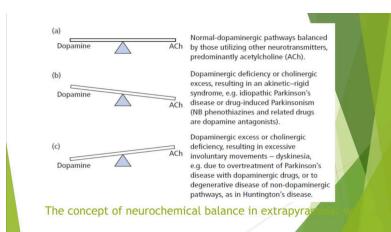
86.



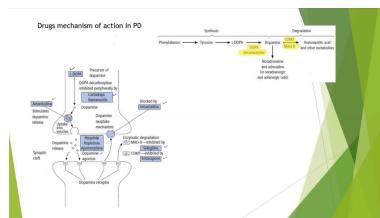
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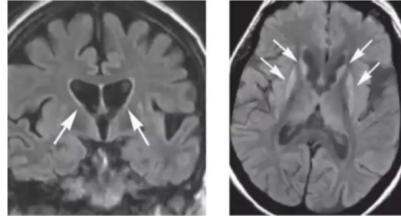
88.



89.

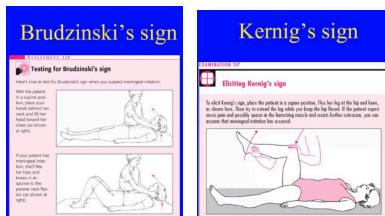


90.



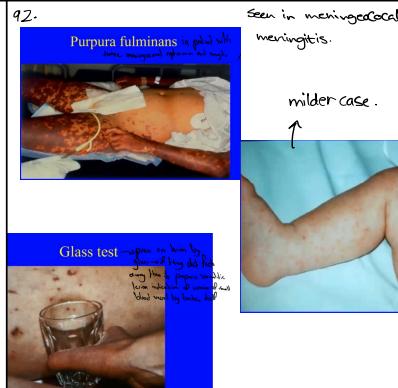
abnormal signals in caudate and putamen (Huntington disease).

91.



meningeal irritation.

92.



seen in meningococcal meningitis.

milder case.

93.

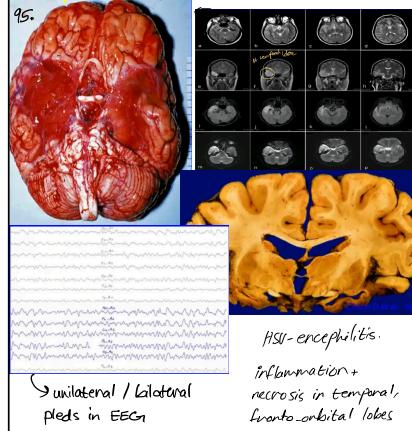
	CSF FINDINGS		
	Bacterial	Viral	TB
Cells	10-100,000	<100	250-500
polys	lymphs	lymphs	
Glucose	low	normal	very low
Protein	↑↑	NI ↑	↑↑↑
G-Stain	gen +ve	-ve	+ve Zn

94.

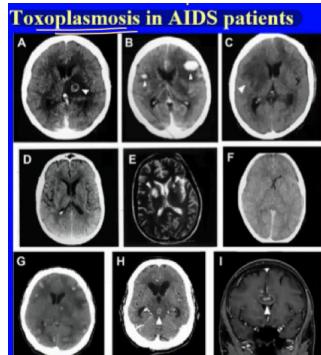


brain abscess.

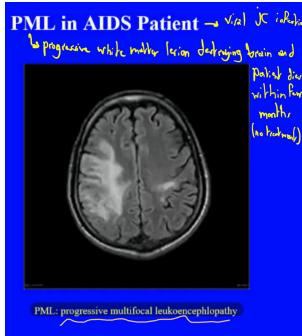
95.



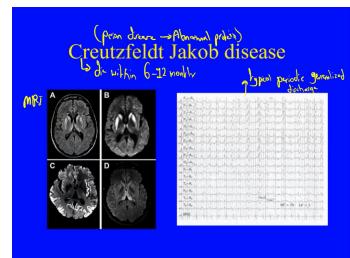
96.



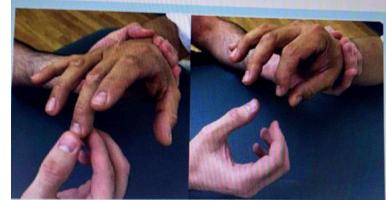
97.



98.



99.



Hoffmann sign.

100.

The drug that is commonly used to treat an acute attack of multiple sclerosis is:

Select one:

- a. Corticosteroids
- b. Natalizumab
- c. Alemtuzumab
- d. Fingolimod
- e. Interferon beta

101.

The shown fundoscopic exam is for a 59-year-old obese lady with body mass index (BMI) of 38kg/m<sup>2</sup> who presented with diffuse severe headache worse in the morning and no other findings, if her neuroimaging studies were normal, the next step to do to reach a diagnosis for this lady is:

Select one:

- a. Toxicology screen
- b. Cerebral angiogram
- c. Lumbar puncture
- d. Electroneurographogram (ENG)
- e. Visual evoked potential (VEP)

*Clear my choice*

102.

In localizing the lesion causing motor weakness which of the following pairs of clinical features/lesion site is Not correct?

Select one:

- a. Right 3rd nerve palsy and left hemiparesis | Midbrain
- b. Seizures and hemiparesis | Pons
- c. Pure motor weakness | AMC (anterior horn cell)
- d. Bilateral lower limb spastic weakness | Spinal cord
- e. Wrist drop | Radial nerve

*Not sure.*

103.

The most important factor to make a proper diagnosis of epilepsy is:

Select one:

- a. Blood chemistry
- b. Proper history from patient or witness
- c. Physical examination
- d. Electroencephalogram (EEG)
- e. Brain MRI

104.

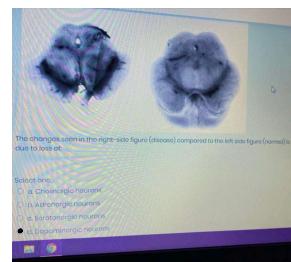
A sensitive test to assess for possible temporal arteritis as a cause of headache in elderly is:

Select one:

- a. Complete blood count (CBC)
- b. Brain MRI
- c. Electroneurographogram (ENG)
- d. Erythrocyte sedimentation rate (ESR)
- e. Brain CT scan

*Clear my choice*

105.



106.

- 20) Which of the following is not a contraindication for Lumbar puncture
- A. witnessed seizure
  - B. Papilledema
  - C. Decreased level of consciousness
  - D. Long term of aspirin use
  - E. Focal neuro deficit

107.

- 11) Picture like this, what is the disease type?
- A. Neuromuscular junction
  - B. Peripheral nerve
  - C. muscle fibers



\* muscle wasting \*