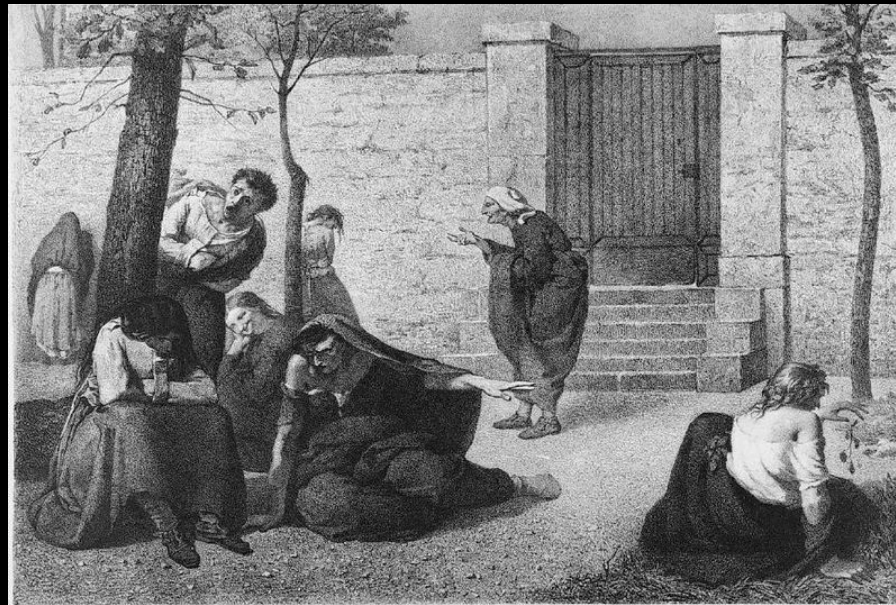


NEURO BOWL

Primary Care in Paradise

Michael A. Lobatz MD

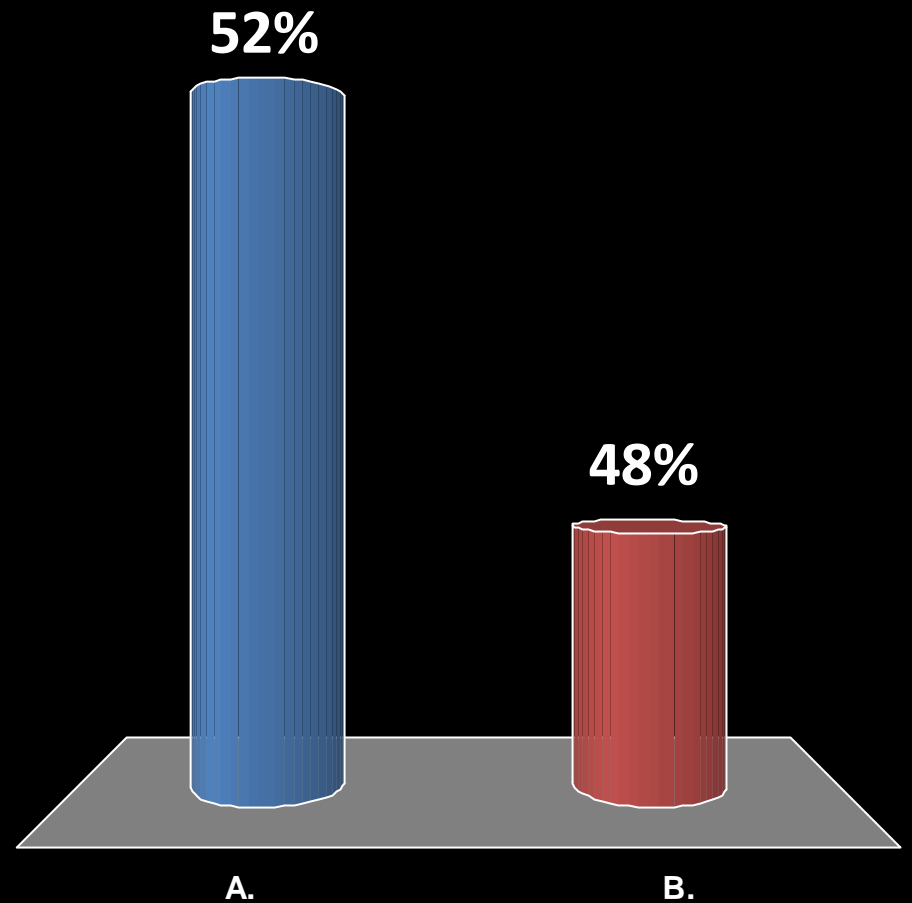
Scripps Neurology





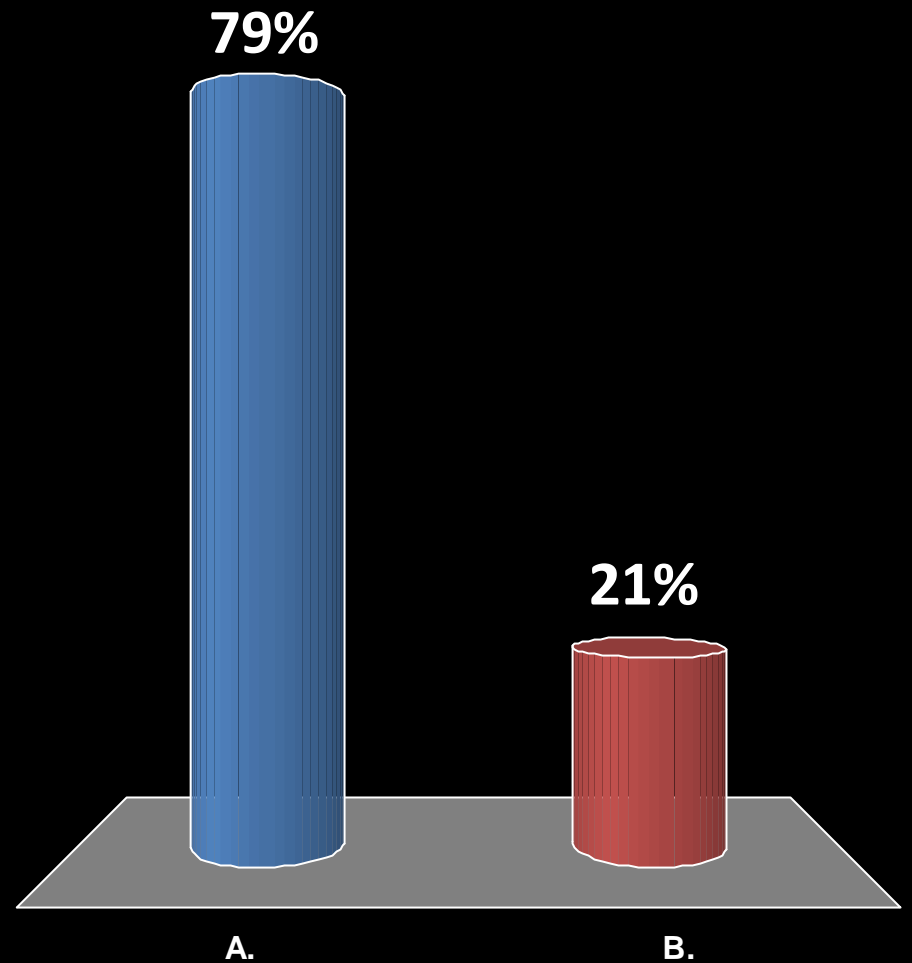
Which group are you in?

- A. Team Charcot
- B. Team Osler



Neurologists are FUN people!!

- ✓ A. True
- B. False



1. 59 year old with hypertension on lisinopril with chronic cough



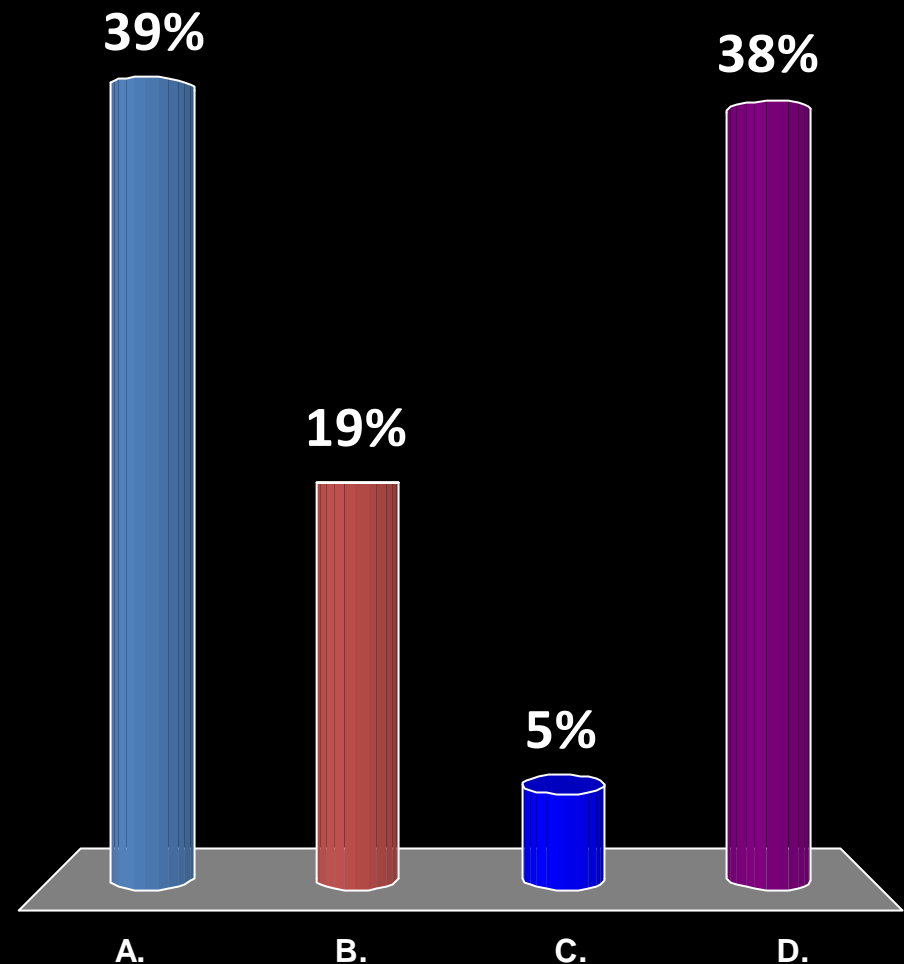
What is your diagnosis?

A. Myasthenia Gravis

B. ACE cough

C. Cerebral
Aneurysm

✓ D. Lung cancer



Lung Cancer



Horner's Syndrome

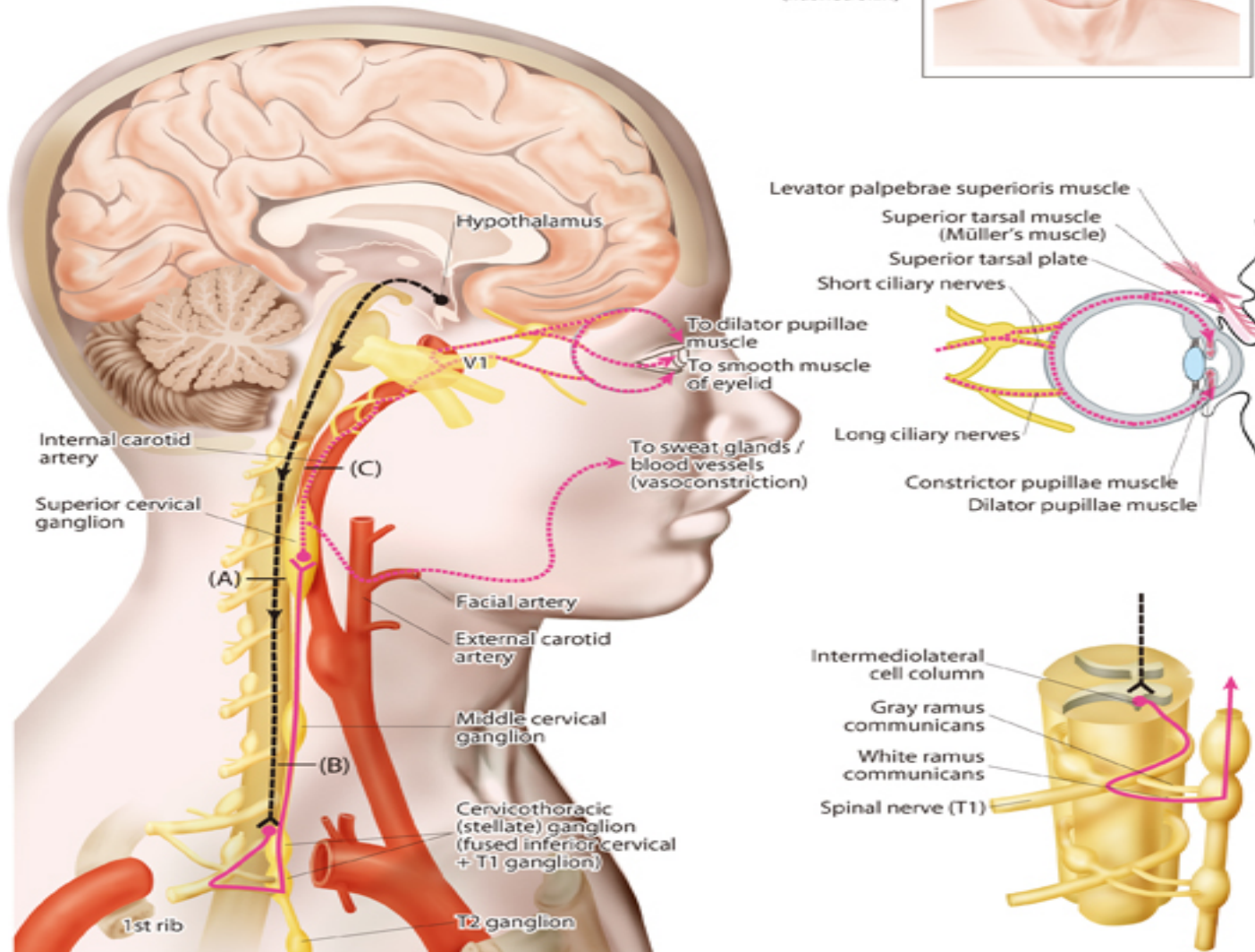
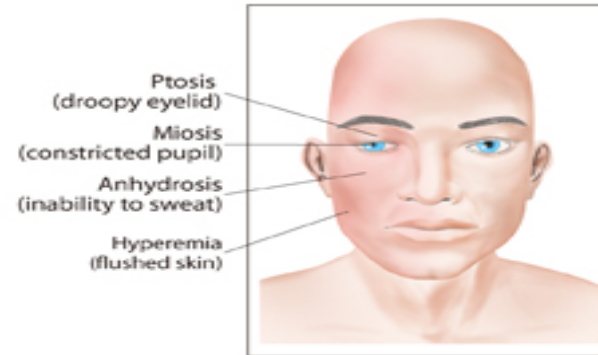
- Constricted Pupil
- Retraction of the eyeball into the head
- Slight drooping of the eyelid
- Increased pink color and warmth of the ear and nose on the affected side (very hard to detect)



Horner's Syndrome

Horner's syndrome results when the cervical sympathetic pathway from the hypothalamus is interrupted. The lesion may be central (A), preganglionic (B), or postganglionic (C) in origin; it may be primary or secondary to another disorder. Symptoms may include ptosis, miosis, anhidrosis (lack of sweating) and/or hyperemia (flushed skin).

- Descending tract from hypothalamus
- Preganglionic tract
- Postganglionic tract

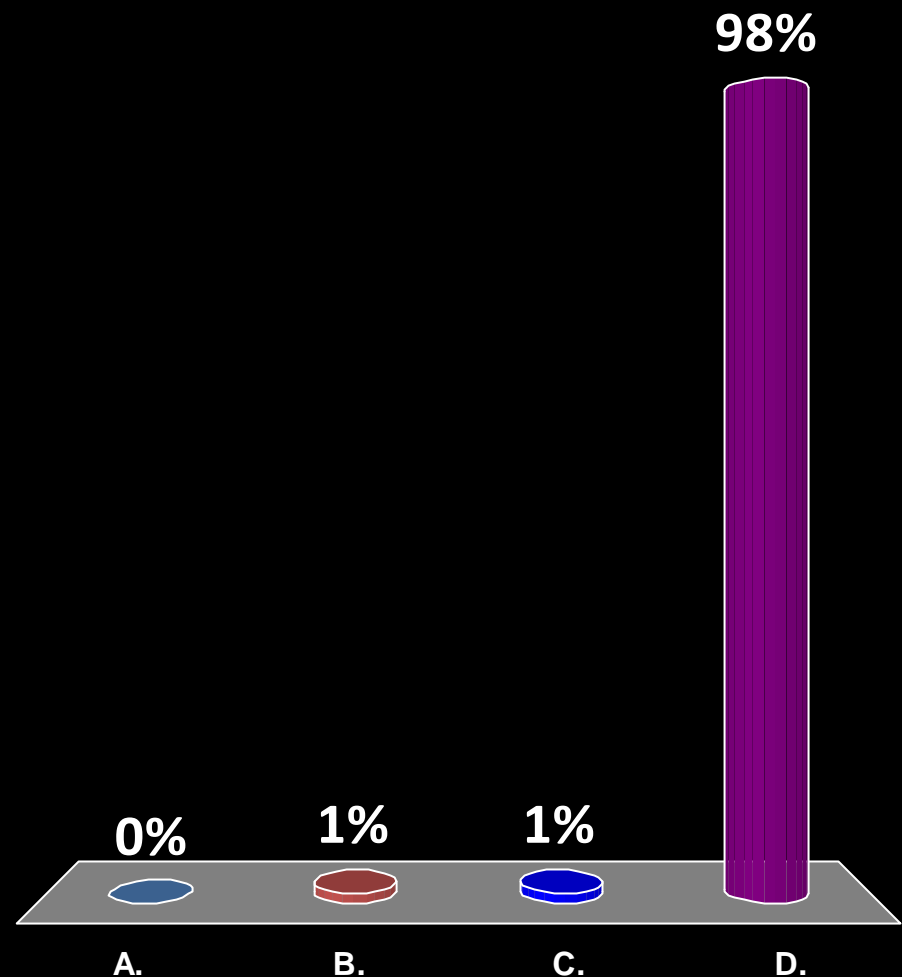


2.



What is your diagnosis?

- A. Stroke
- B. Herpes Zoster
- C. Dermatophytosis
- ✓ D. Lyme's disease



Neurological complications of Lyme disease

- Most often occur in the second stage of Lyme disease
 - Numbness
 - pain
 - weakness
 - Bell's palsy
 - visual disturbances
 - meningitis symptoms such as fever, stiff neck, and severe headache.

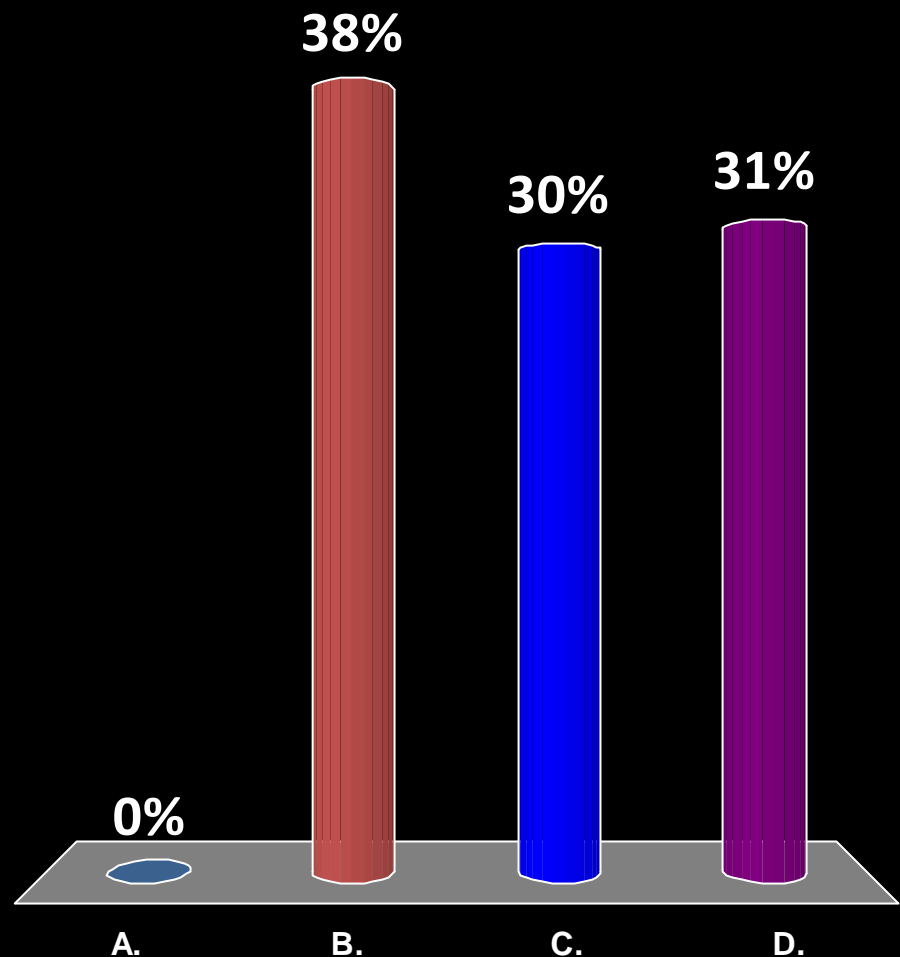


3. 63 year old with double vision and intermittent fatigue



What is your diagnosis?

- A. Botulism
- ✓ B. Myasthenia Gravis
- C. Multiple Sclerosis
- D. Brain tumor,
raised ICP



Myasthenia Gravis

- Muscles that control eye and eyelid movement, facial expression, and swallowing are most frequently affected.
- Symptoms may include ptosis, or diplopia
- Difficulty in swallowing and slurred speech

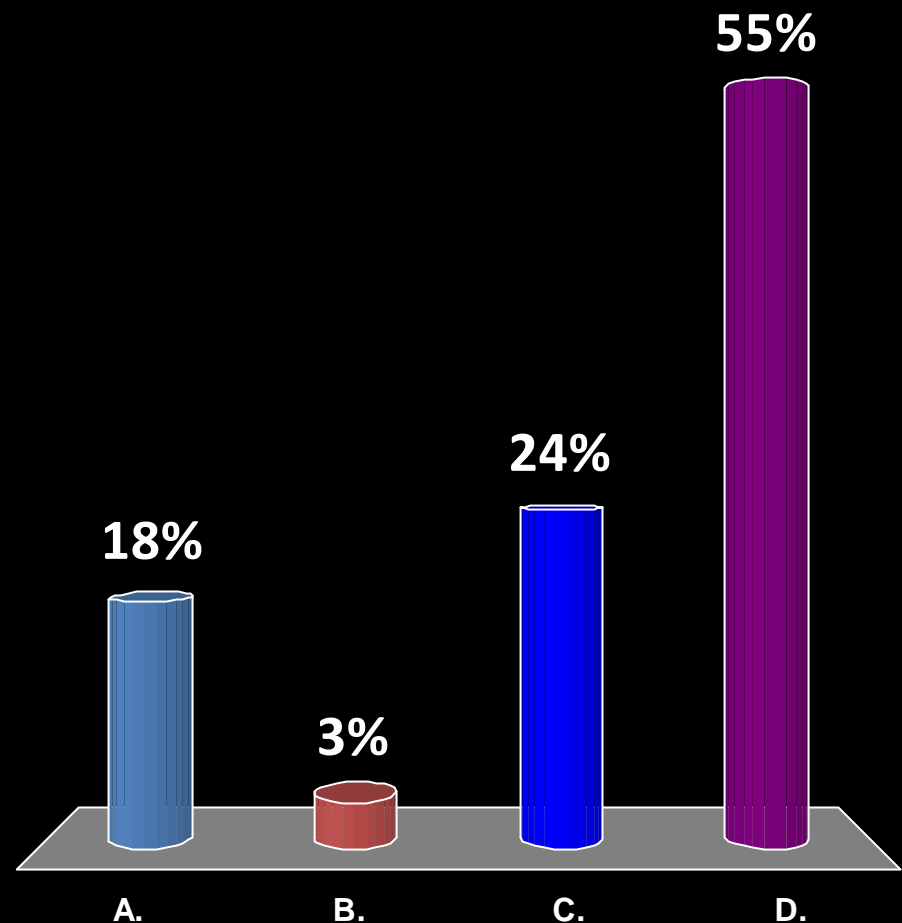
4. 35 year old male with severe right face and forehead pain.



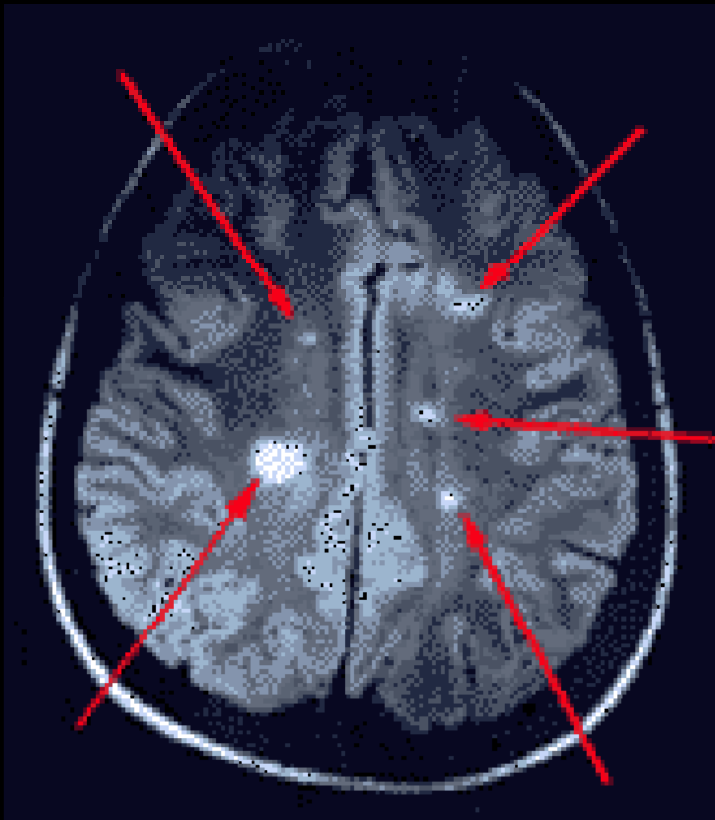
- Episodes occurring since age 20
- Often awakens him at night
- C/O left sided leg numbness at times

What is your diagnosis?

- A. Trigeminal neuralgia
- B. Atypical facial pain
- ✓ C. Multiple Sclerosis
- D. Cluster headaches



Multiple Sclerosis



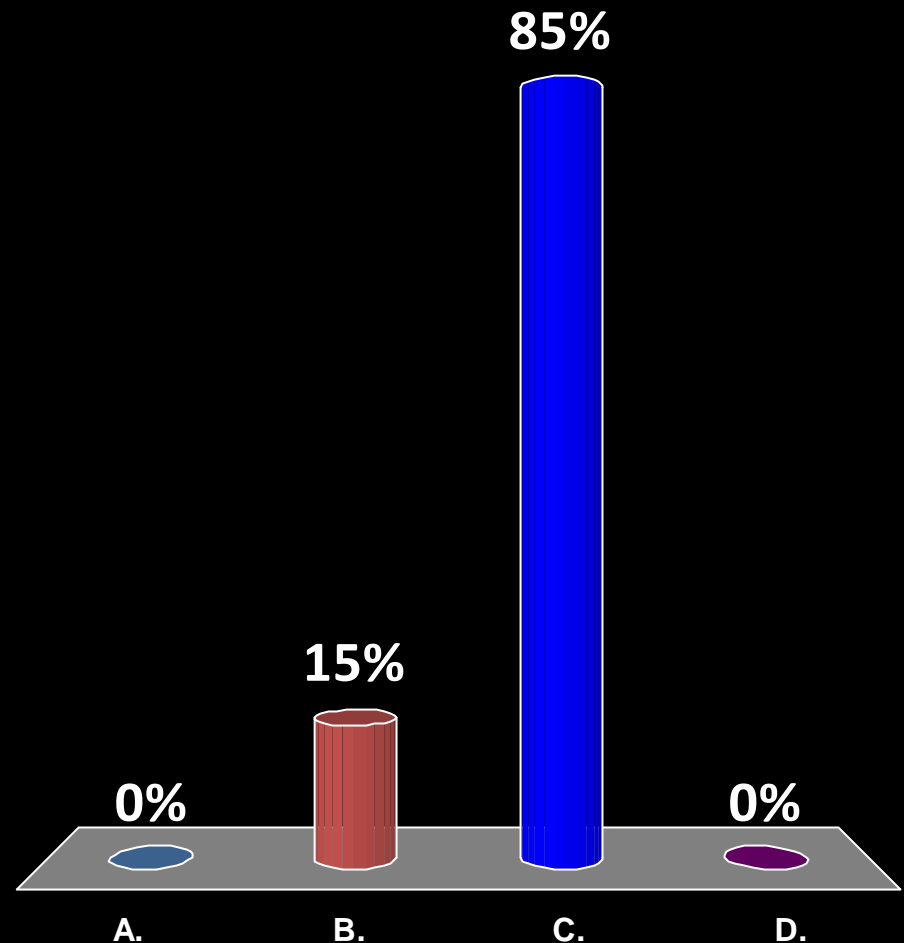
- Other neurological symptoms
- Young onset atypical for pure trigeminal neuralgia
- Approx. 5 - 10% of patients with MS experience trigeminal neuralgia.
- Demyelination of the trigeminal nerve nucleus within the brainstem, or the trigeminal nerve itself.

5. 50 year old smoker with diabetes,
HTN & hyperlipidemia

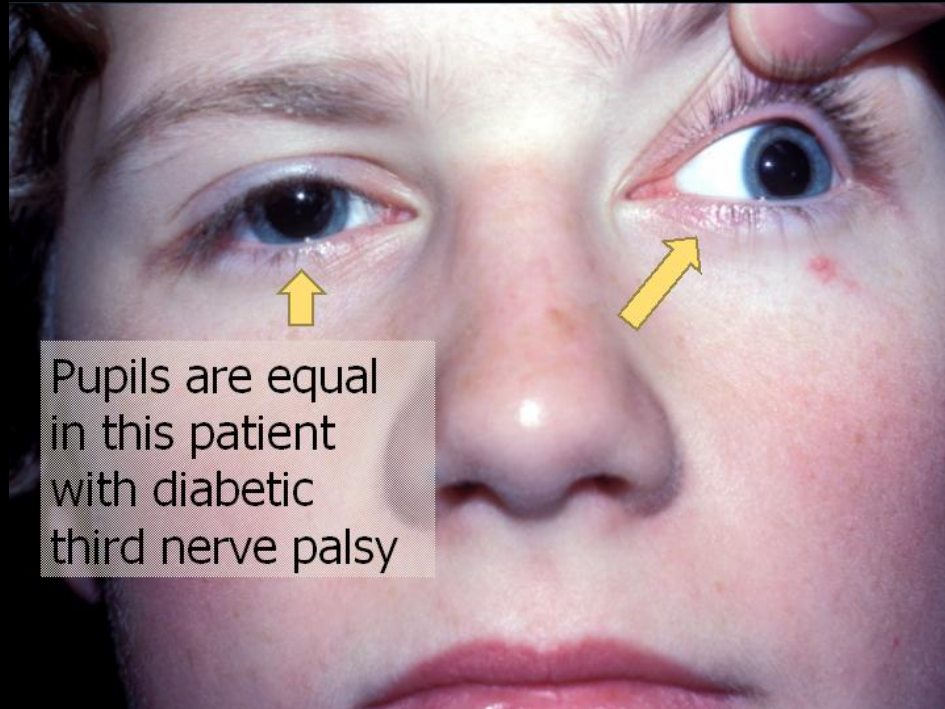


What is your diagnosis?

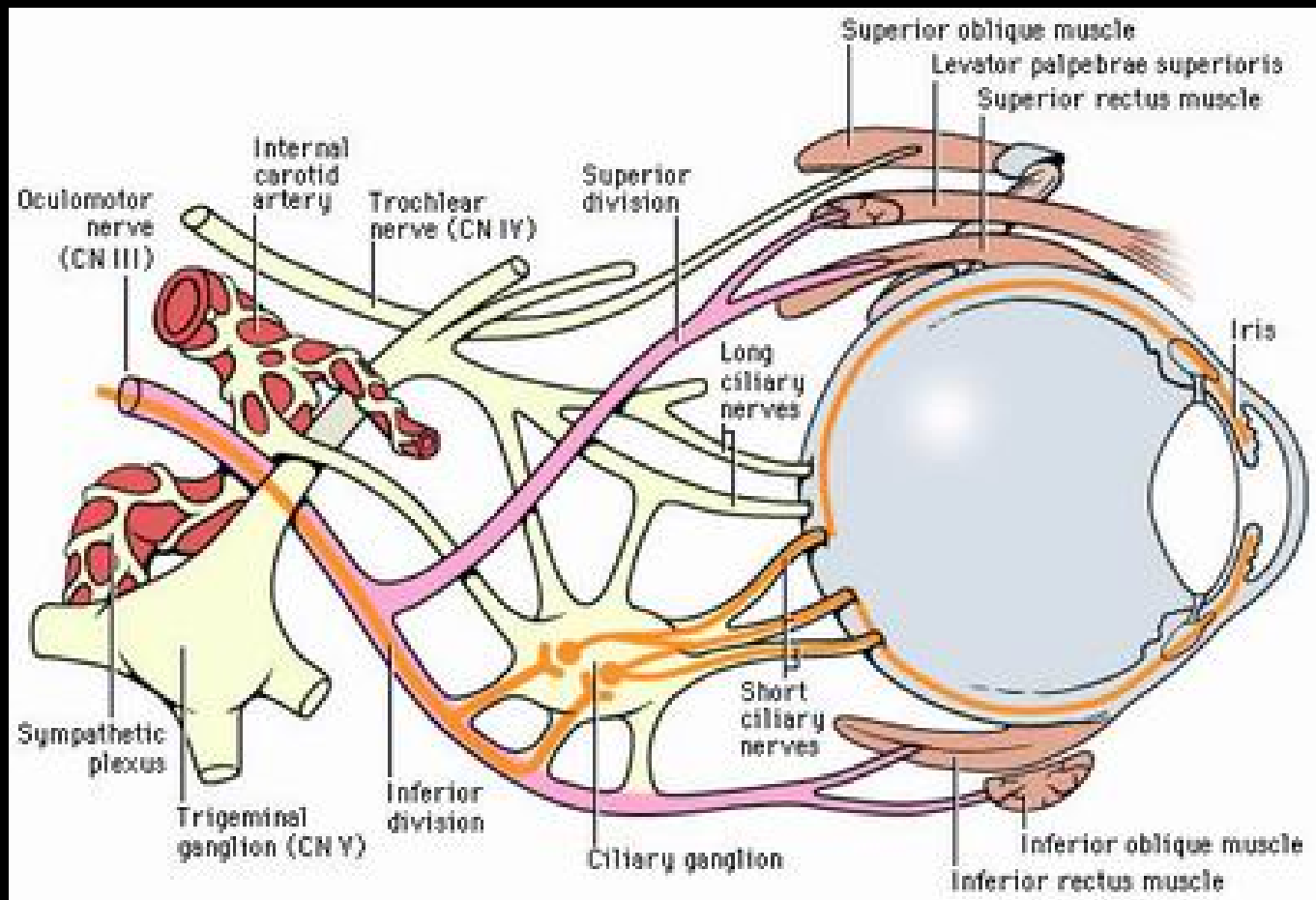
- A. Horner's syndrome
- B. Cerebral Aneurysm
- ✓ C. Diabetic 3rd N. palsy
- D. Cluster headaches



Diabetic 3rd Nerve Palsy



Although the involved pupil is large, so is the one in the normal eye in this girl who has diabetic third nerve palsy with sparing of the pupil. Her pupils were *equal before dilating drops and dilated equally after instillation.*



3rd Nerve Palsy

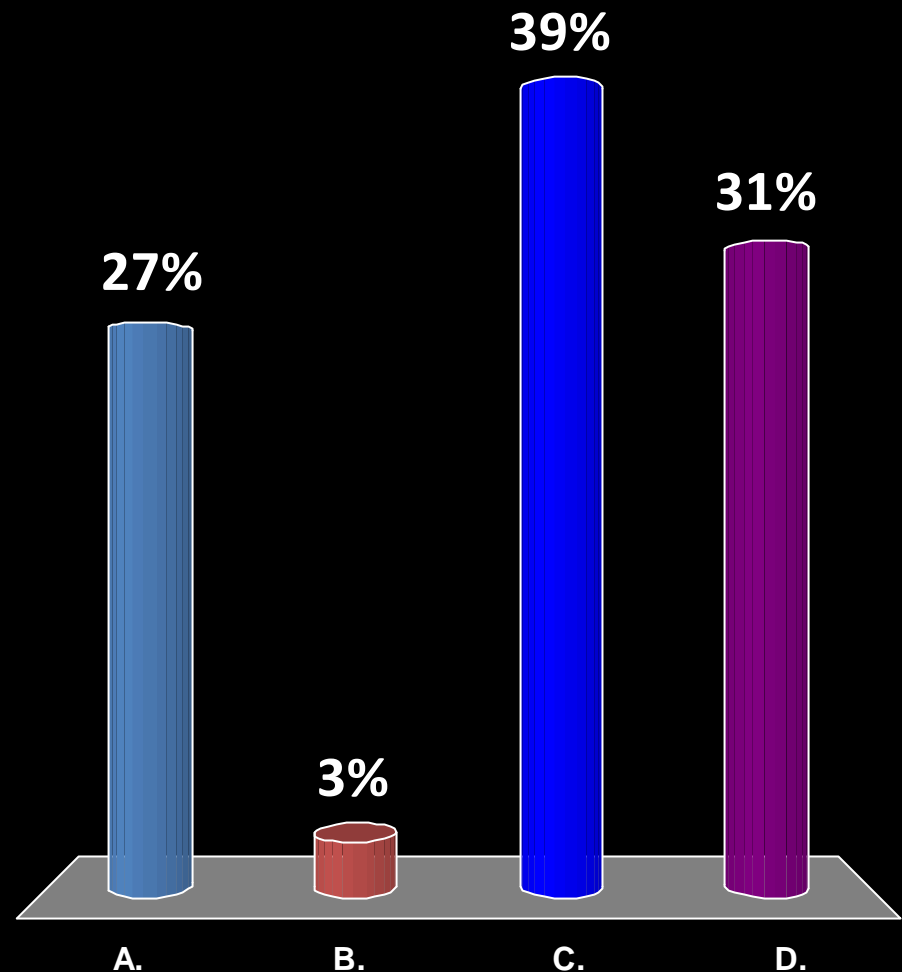
- May have a droopy eyelid
- Inability to move the eye inwards, and vertically.
- The affected eye may be displaced downwards and outwards.
- If the eyelid is not markedly drooped, then double vision with diagonal separation is often seen.
- **If a patient has a new onset third nerve palsy accompanied by a dilated pupil, the possibility of a brain aneurysm should be excluded.**

6. 35 year old female with headache and diplopia following a head injury



What is your diagnosis?

- A. Subdural Hematoma
- B. Nothings wrong but she's in litigation
- C. Torticollis
- D. 4th N. (Trochlear) Palsy



4th Nerve (Trochlear) Palsy

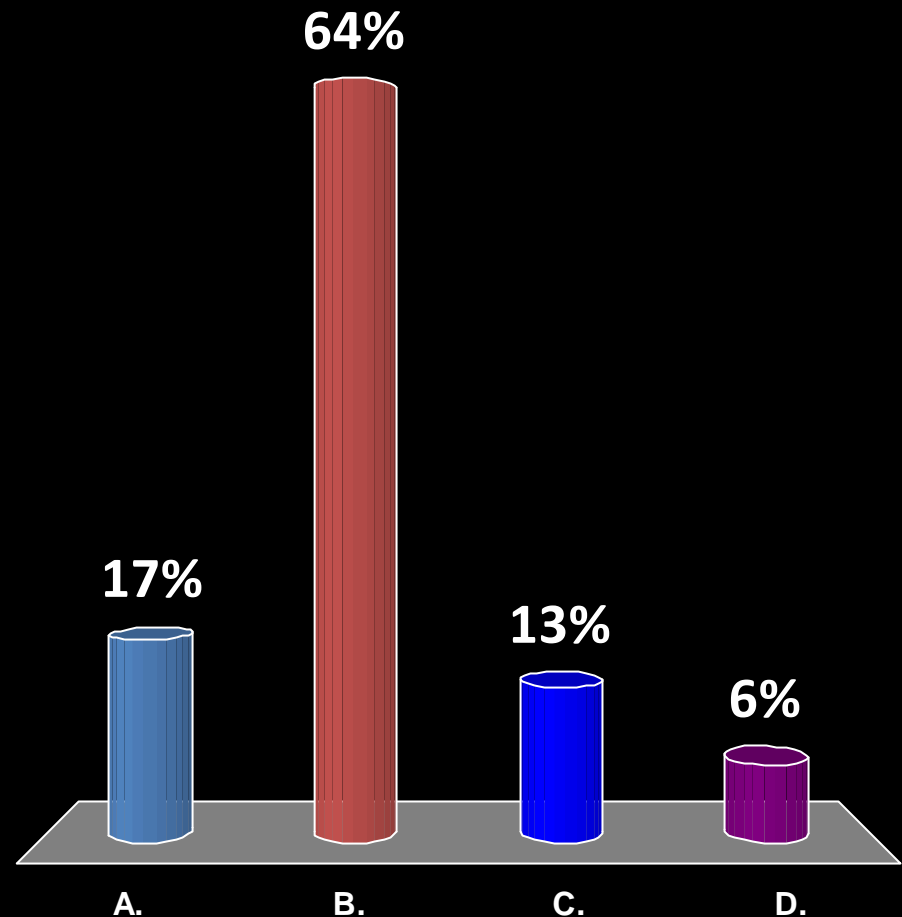
- The superior oblique muscle depresses, intorts, and abducts the globe.
- In acquired lesions of fourth nerve, patients report vertical, torsional, or oblique diplopia.
- Patients often adopt a characteristic head tilt, away from affected side to reduce their diplopia.

7. 40 year old with ataxia, leg weakness and difficulty with voice and swallow.



What is your diagnosis?

- A. Multiple Sclerosis
- ✓ B. Brain Stem injury
- C. Seizure activity
- D. Essential Tremor

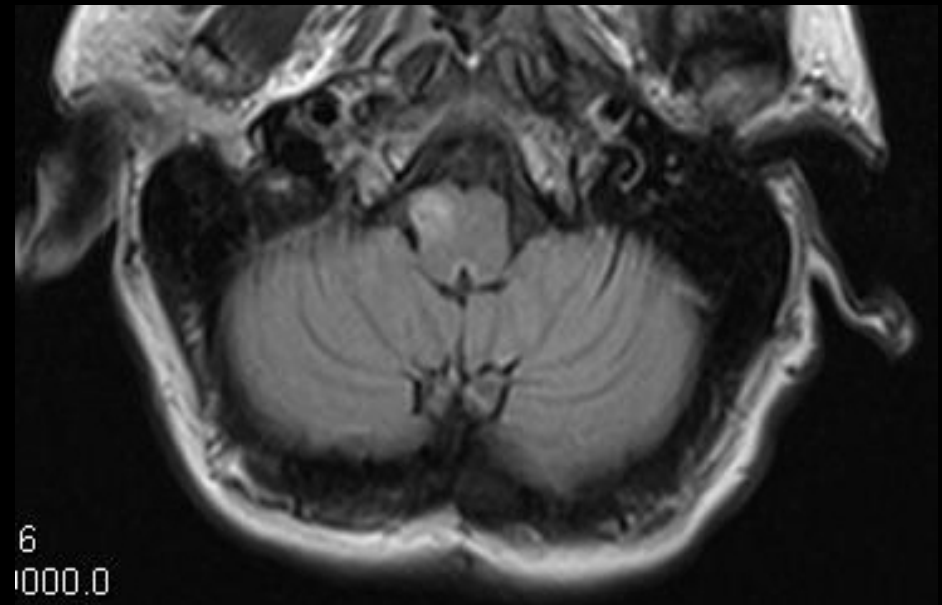
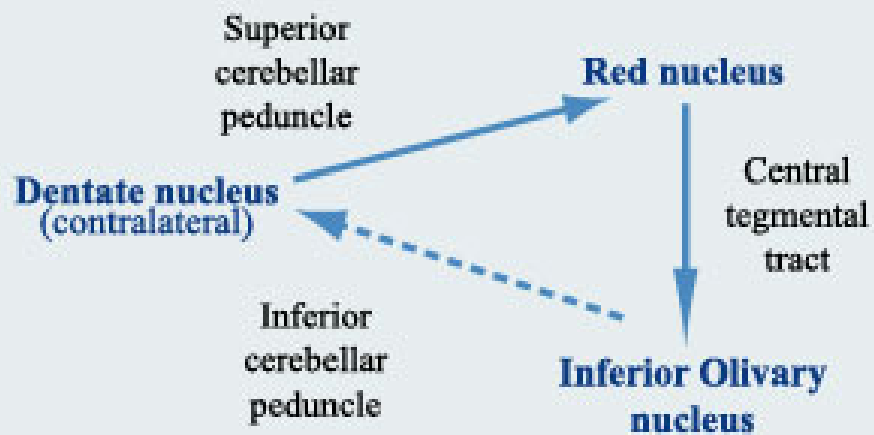


Oculo Palatal Myoclonus

- Characterized by rhythmic involuntary jerky movements of the soft palate of the throat.
- When associated with eye movements, as is not unusual, it is called "oculopalatal myoclonus", or OPM.
- A clicking sound is commonly heard.
- The frequency of the jerking is ordinarily 1-2 hz.
- Persistence during sleep and frequently lack of modulation by voluntary influences.

Etiology of OPM

Guillain-Mollaret Triangle

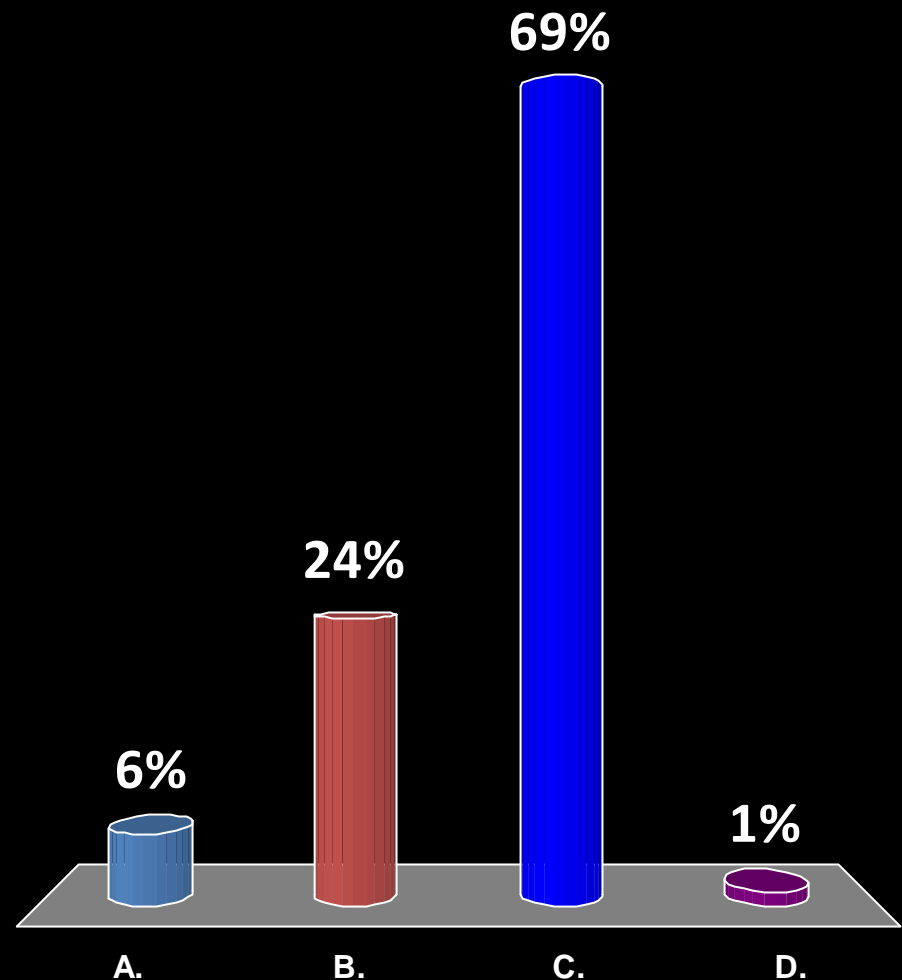


8. 80 year old with bilateral foot pains



What is your diagnosis?

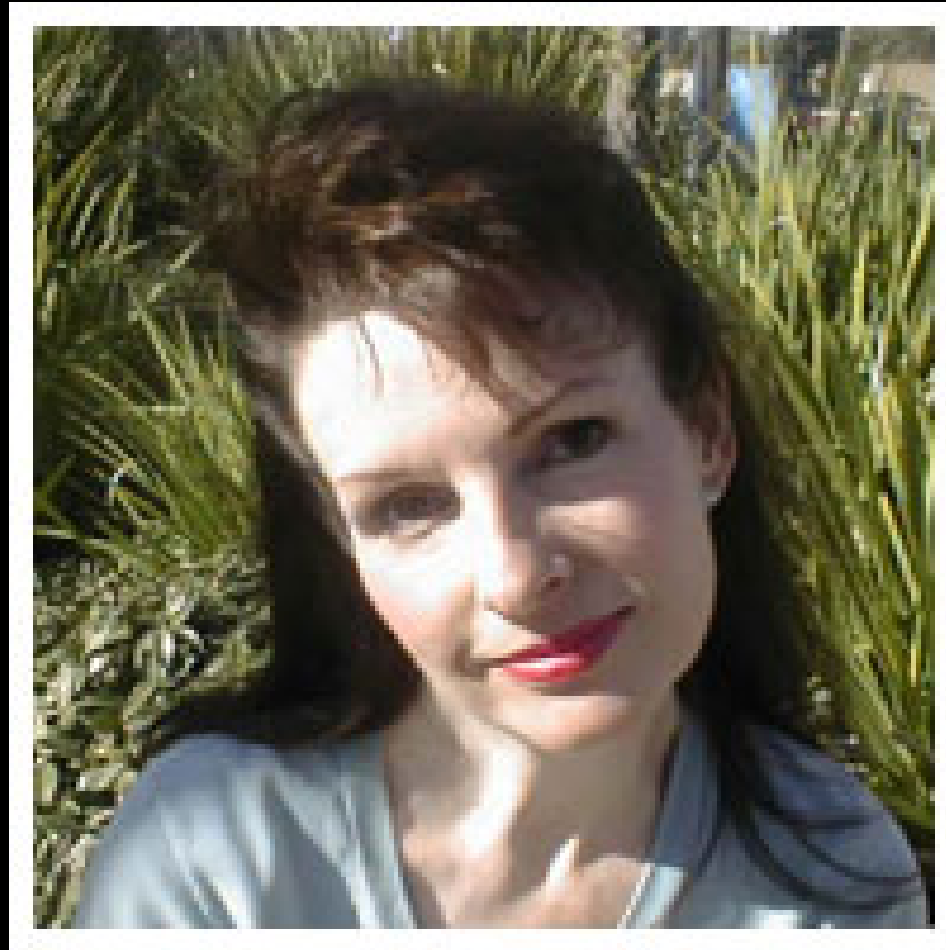
- A. Peripheral Neuropathy
- B. Charcot foot
- ✓ C. A and B
- D. None of the above



Charcot Foot Due to Severe Peripheral Neuropathy

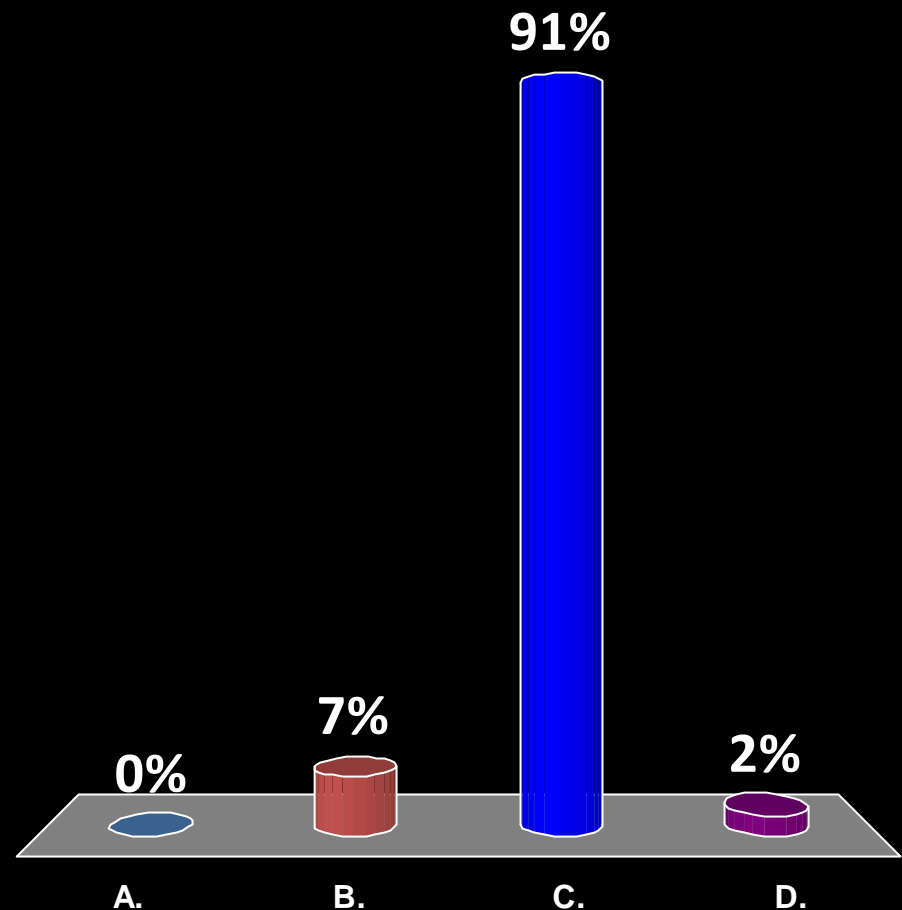
- Pattern of bone and joint destruction
- Usually begins with peripheral neuropathy
- Producing small fractures in the bones
- This combined with the lack of ability to heal by having limited circulation weakens the supporting structures of the foot and eventually result in the deformity.

9. 50 year old female with neck pain



What is your diagnosis?

- A. 4th N. Palsy
- B. Neck Strain
- ✓ C. Spasmodic torticollis
- D. Parkinson's Disease



Spasmodic Torticollis (Cervical Dystonia)

- Symptoms are caused by intermittent or sustained contractions of the muscles around the neck.
- Head, neck or shoulders may be uneven and some patients experience tremors in the head or arms.
- ST is usually accompanied by constant and extreme pain.

Spasmodic Torticollis (Cervical Dystonia)

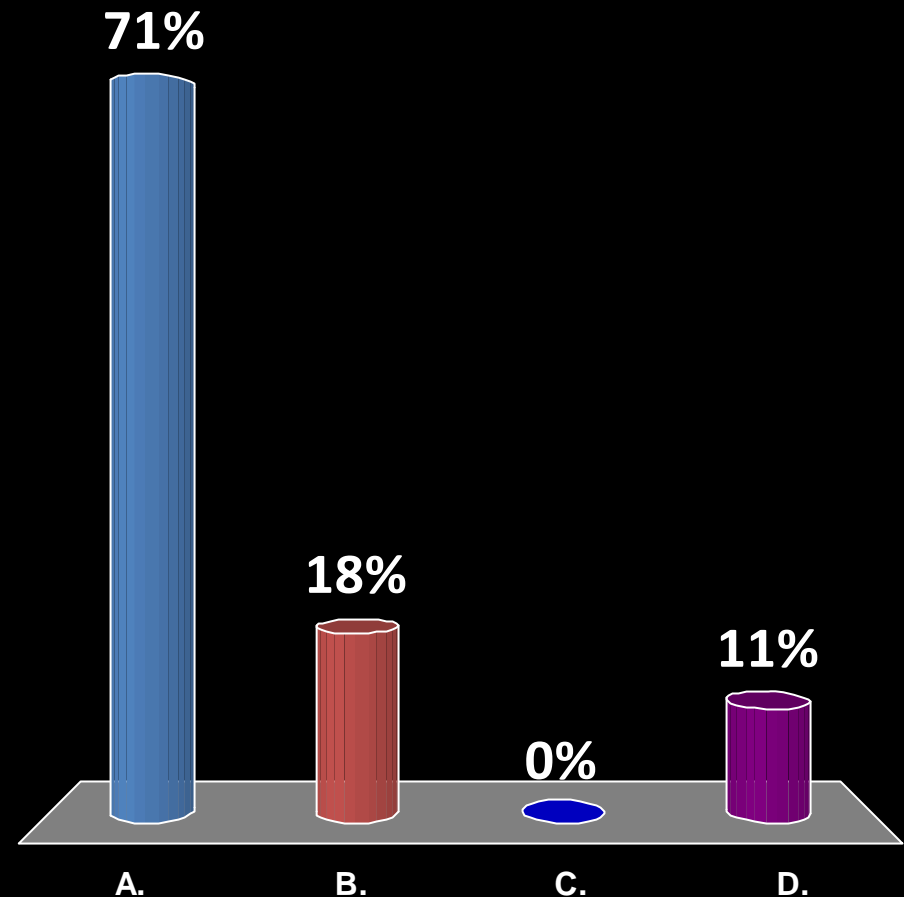
- Medications used to treat this:
- Baclofen, other muscle relaxants
- Injection of botulinum toxin can temporarily relieve the torticollis, but repeat injections every 3 months are usually needed.
- Surgery is rarely used.

10. 80 year old female with speech difficulties.



What is your diagnosis?

- A. Parkinson's Disease
- ✓ B. Essential Tremor
- C. Spasmodic torticollis
- D. Wilson's Disease



Essential Tremor

- Essential tremor is the most common movement disorder.
- It is a syndrome characterized by a slowly progressive postural and/or kinetic tremor, usually affecting both upper extremities.
- Essential tremor is familial in at least 50-70% of cases.
- Transmission is autosomal dominant, with incomplete penetrance.

Essential Tremor

- Primidone and propranolol are the cornerstones of maintenance medical therapy for essential tremor.
- Possibly useful
 - Gabapentin
 - Topiramate

11. 45 year old complains of dragging the right foot.



Exam:

Right Foot dorsiflexion 0/5

Right Foot eversion 0/5

Right Foot inversion 5/5

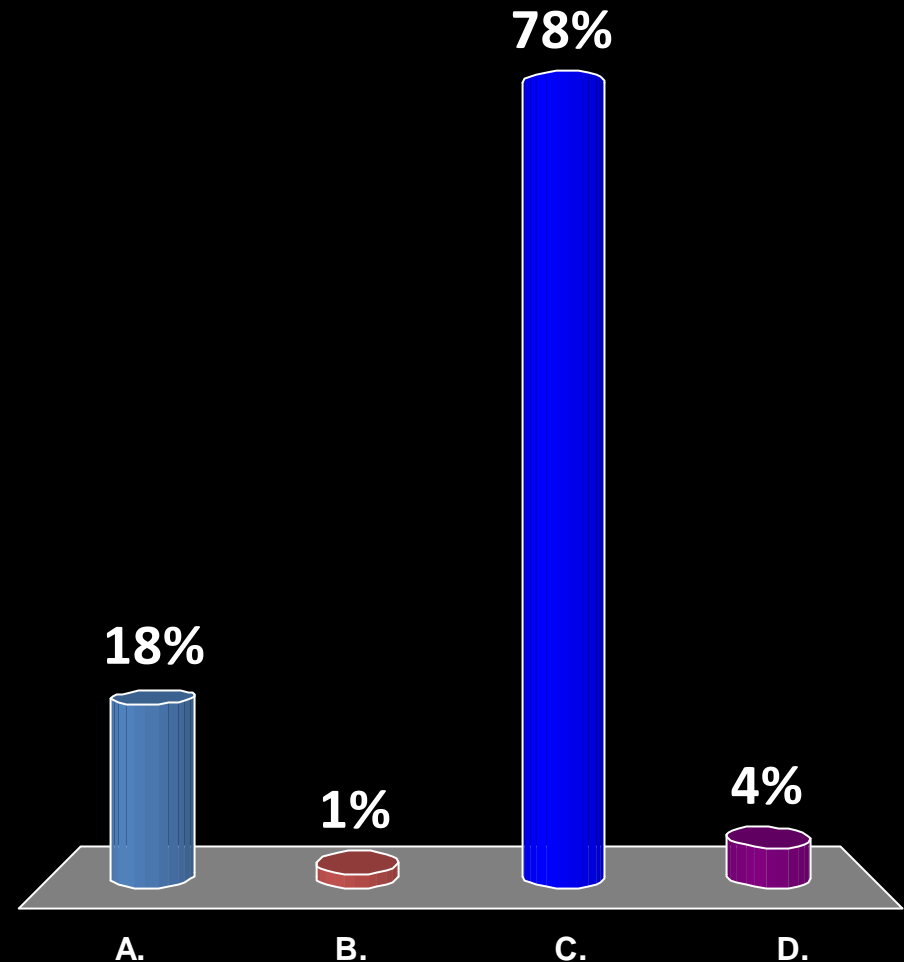
Right foot plantar flexion-normal

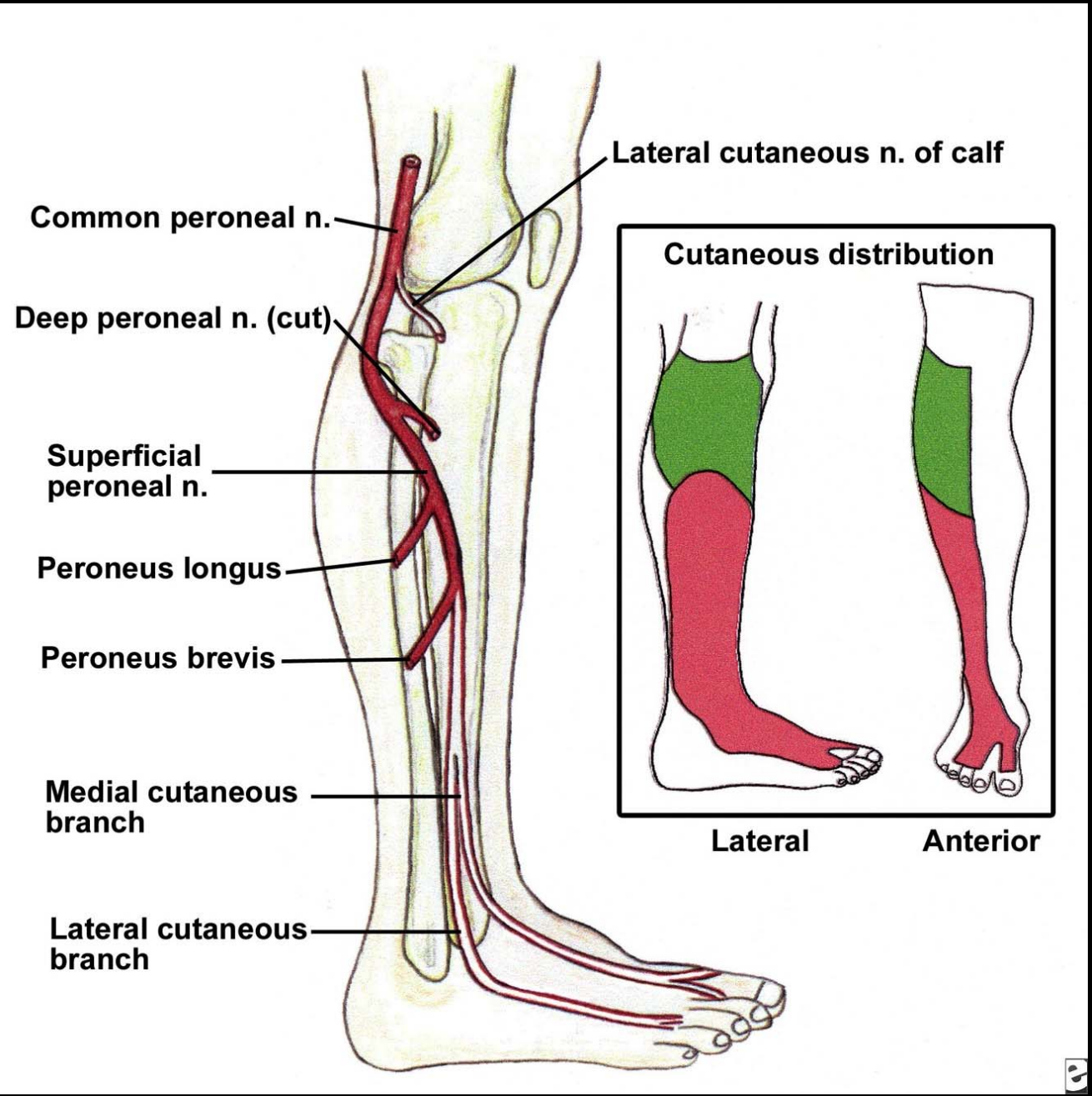
Left foot normal

Ankle and knee jerks 2+

What is your diagnosis?

- A. L5 Radiculopathy
- B. Acute stroke
- ✓ C. Peroneal Neuropathy
- D. Peripheral neuropathy





Common causes of damage to the peroneal nerve

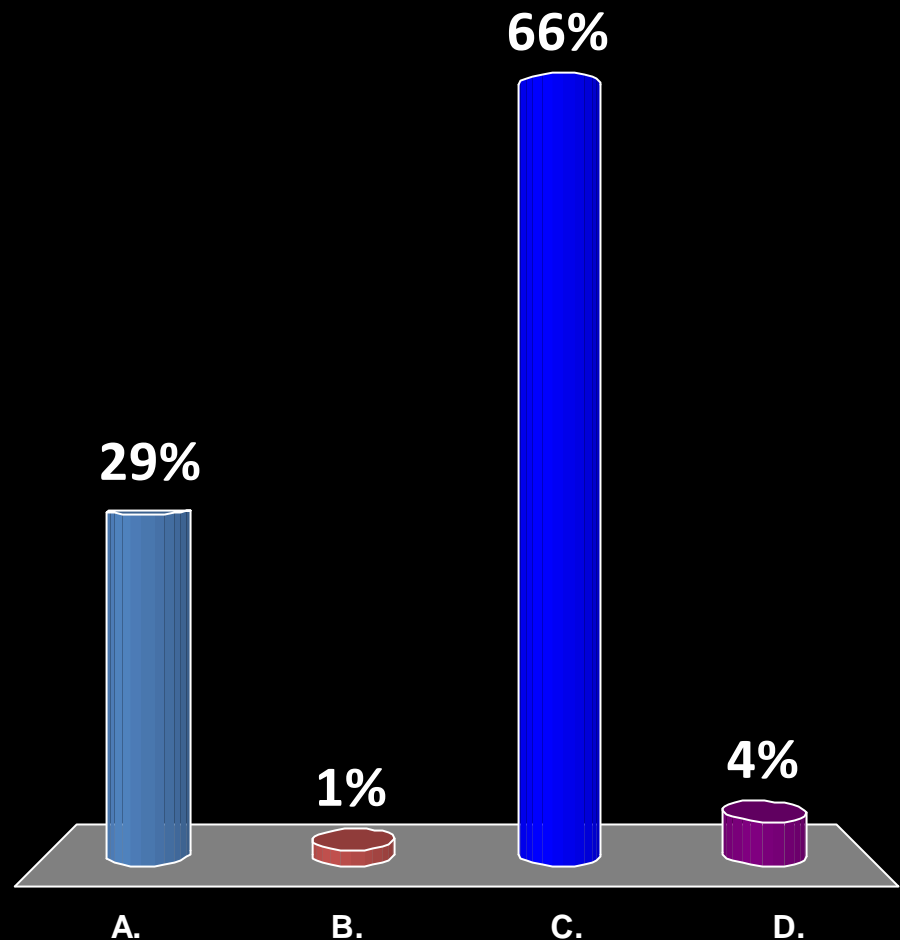
- Trauma or injury to the knee
- Fibular fracture
- Use of a tight plaster cast (or other long-term constriction) of the lower leg
- Habitual leg crossing
- Regularly wearing high boots
- Pressure to the knee from positions during deep sleep or coma.
- Injury during knee surgery.

12. 40 year old awoke with wrist drop.
She complains of pain in her upper
arm.

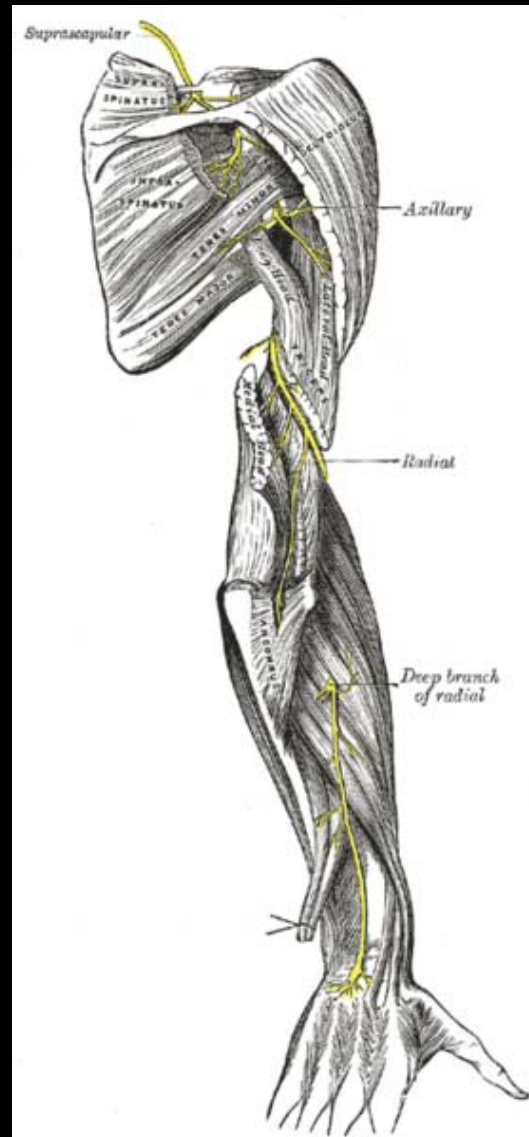


What is your diagnosis?

- A. C5 Radiculopathy
- B. Acute stroke
- ✓ C. Acute Radial Palsy
- D. Ruptured tendons



Saturday Night (Radial) Palsy



Compressive Radial Palsies

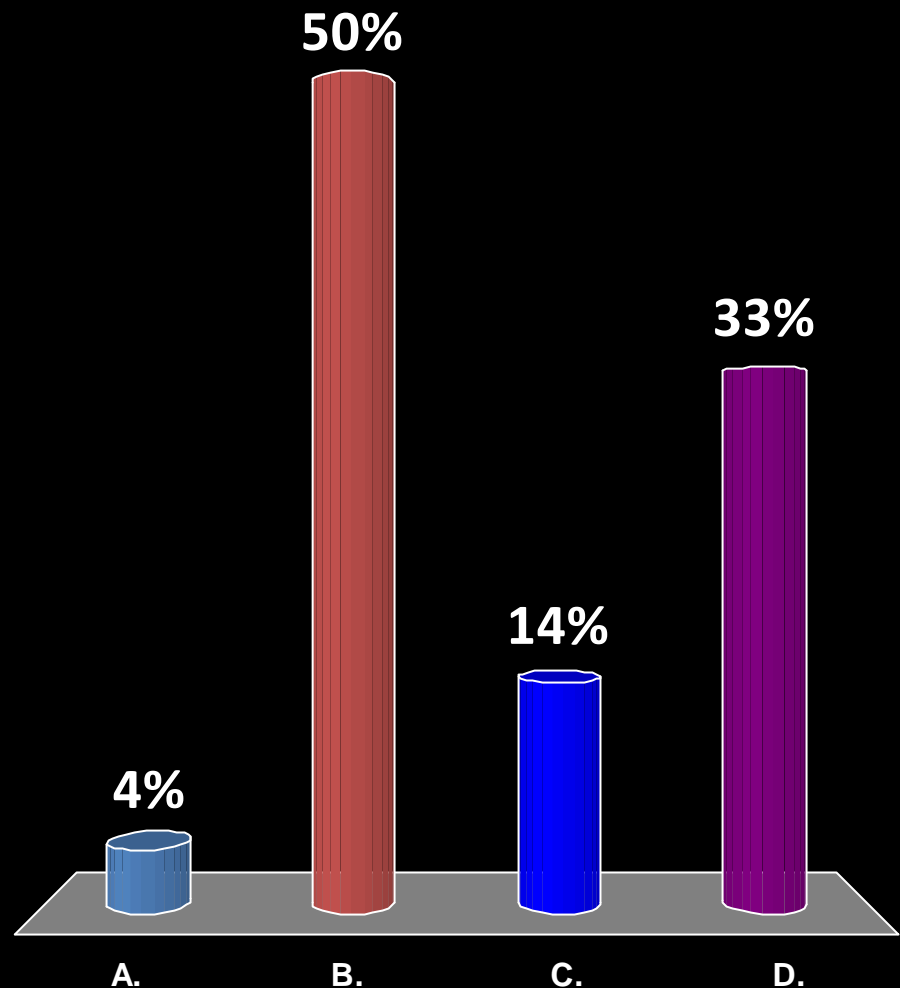
- **Saturday night palsy** from falling asleep with one's arm hanging over the arm rest of a chair, compressing the radial nerve at the spiral groove.
- **Honeymoon palsy** from another individual sleeping on and compressing one's arm overnight
- **Handcuff Neuropathy** from tight fitting handcuffs compressing the superficial branch of the distal radial nerve; this is also referred to as cheiralgia parasthetica.
- **Crutch palsy** from poorly fitted axillary crutches.

13. 58 year old with HTN, DM, prior Left
ischemic CVA – “recovered”
Acute change in speech and mood

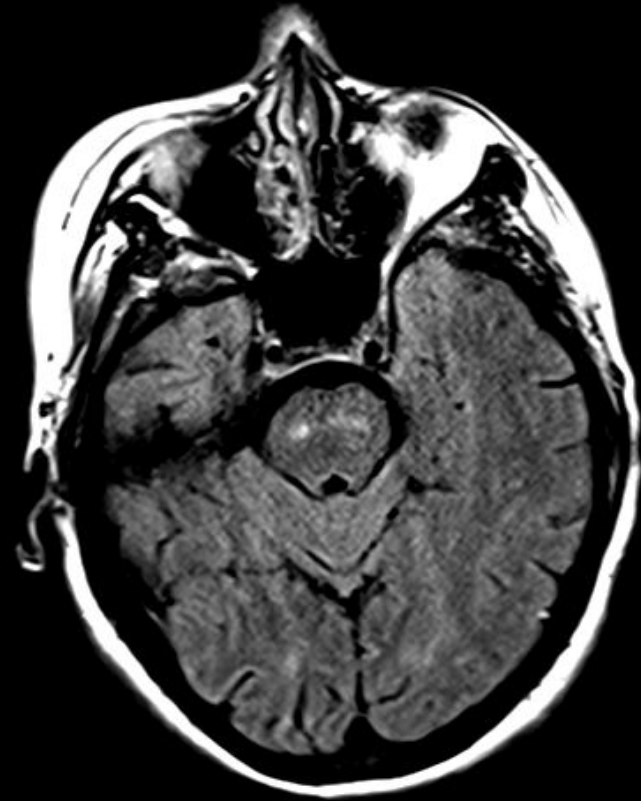
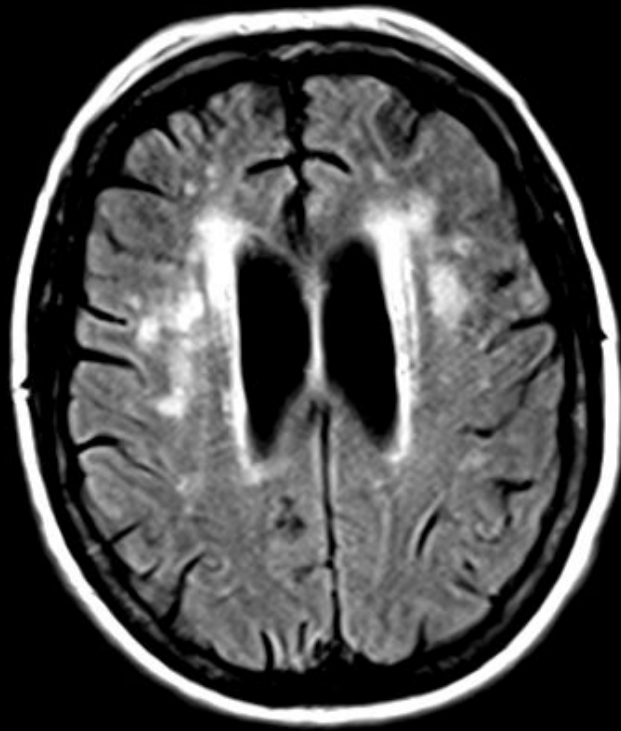


What is your diagnosis?

- A. Depression
- ✓ B. Pseudobulbar palsy
- C. Bulbar palsy
- D. Cri du Chat



Multiple Cerebral Infarcts



Involuntary Emotional Expression Disorder

Pseudobulbar Palsy

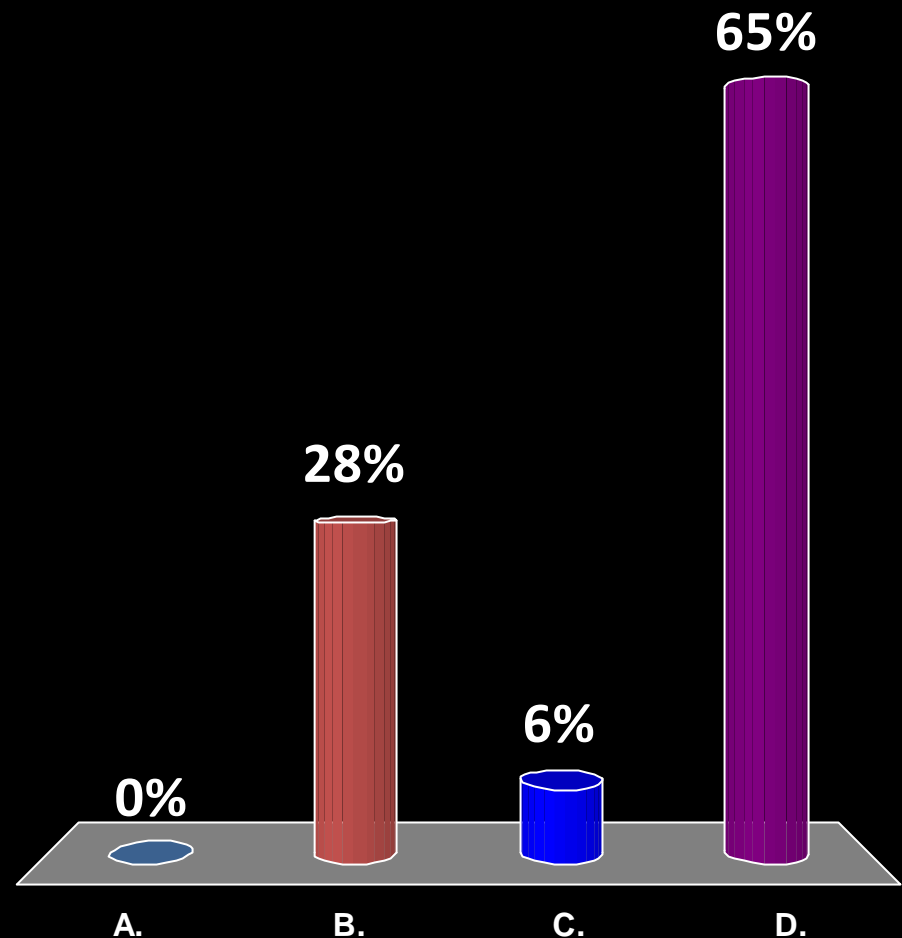
- Episodes of crying, laughing, or both
- A result of structural brain damage
- It is common with several neurological disorders
 - Stroke
 - Amyotrophic lateral sclerosis
 - Traumatic brain
 - Multiple sclerosis
 - Dementias such as Alzheimer's
- Prevalence is likely to be underestimated
 - approximately 1 million cases exist in the United States
 - Associated with undeniable distress for patients and family members
 - Can result in embarrassment and withdrawal from social and occupational settings
- Often confused with other mood or affective disorders

14. 70 year old male with mild memory loss.

- History:
 - 1 year duration
 - More noticeable lately
 - Can still function but family has noted mild difficulties cognitively.
 - Very “active” dreams that he appears to act out in his sleep.
- Exam:
 - MMSE = 23
 - Mildly delusional thinking
 - Mild resting 3-4 Hz tremor
 - Mild masked Facies

What is your diagnosis?

- A. Schizophrenia
- B. Parkinson's
- C. Alzheimer's
- ✓ D. Lewy Body Dementia



Lewy Body Dementia



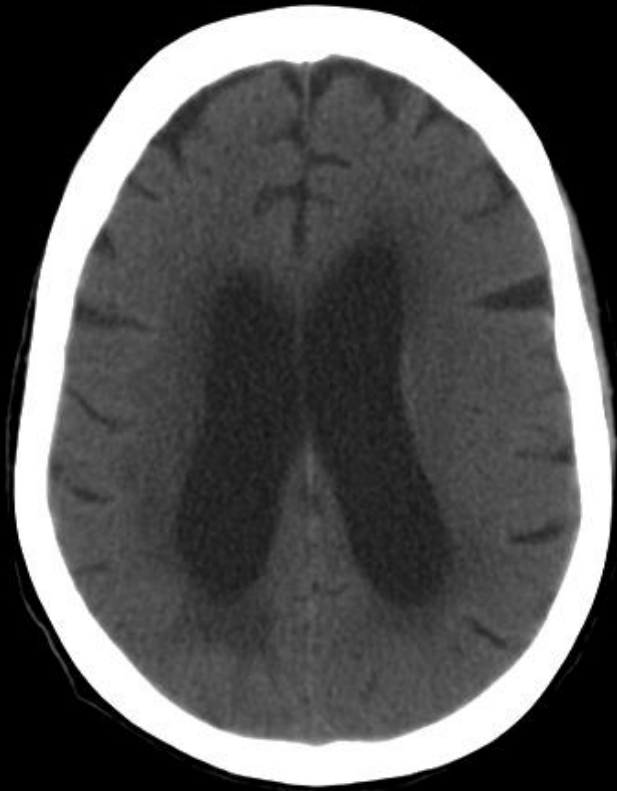
Lewy Body Dementia

- Dementia is the primary symptom
 - Memory
 - Problem solving
 - Planning
 - Abstract or analytical thinking.
 - Cognitive fluctuations involve unpredictable changes in concentration and attention from day to day.☒
- Parkinson's-like symptoms
 - Rigidity
 - Shuffling gait
 - Tremor
 - Slowness of movement
- Hallucinations
- REM behavior disorder

Treatment

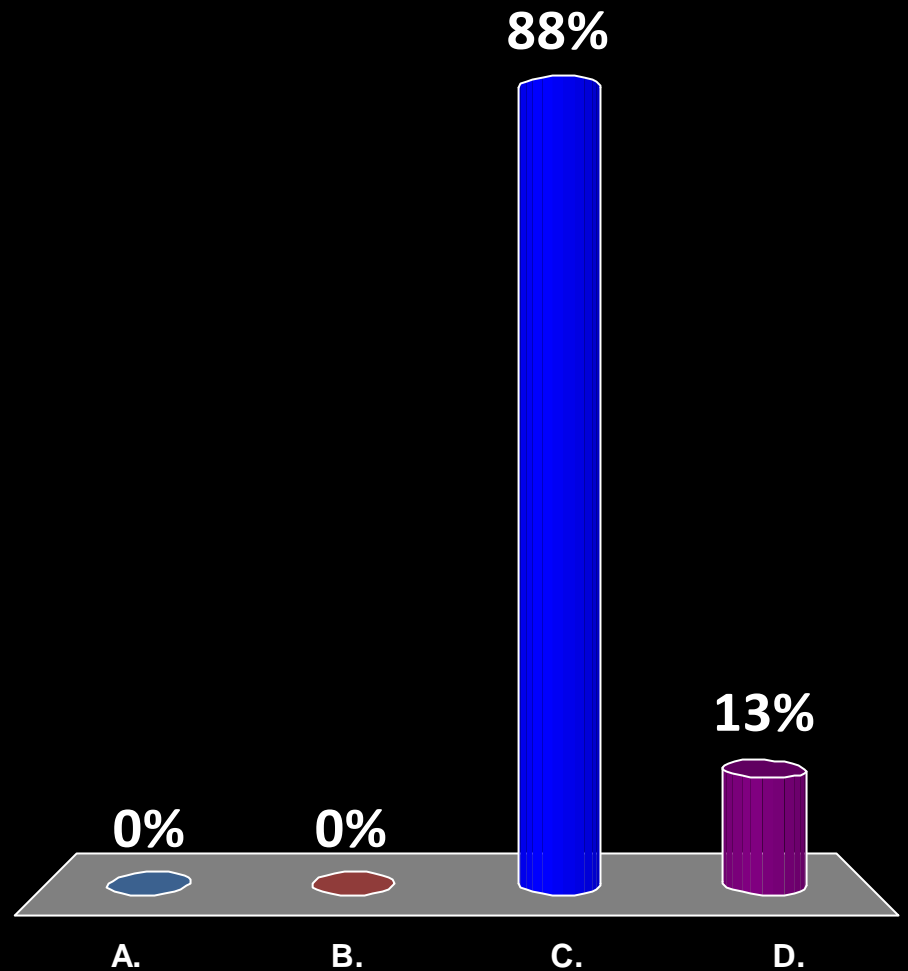
- Cholinesterase inhibitors
- Carbidopa/levodopa
- Avoid antipsychotics if at all possible
- If one is needed:
 - Quetiapine (will not block dopamine receptors)
 - Do not use haloperidol, thiorazine, or other atypical antipsychotics.
 - Avoid phenothiazine anti-emetics
- Clonazepam for RBD can be considered

15. 63 year old with memory loss,
incontinence and shuffling gait
disturbance.



What is your diagnosis?

- A. Depression
- B. UTI
- ✓ C. NPH
- D. Alzheimer's



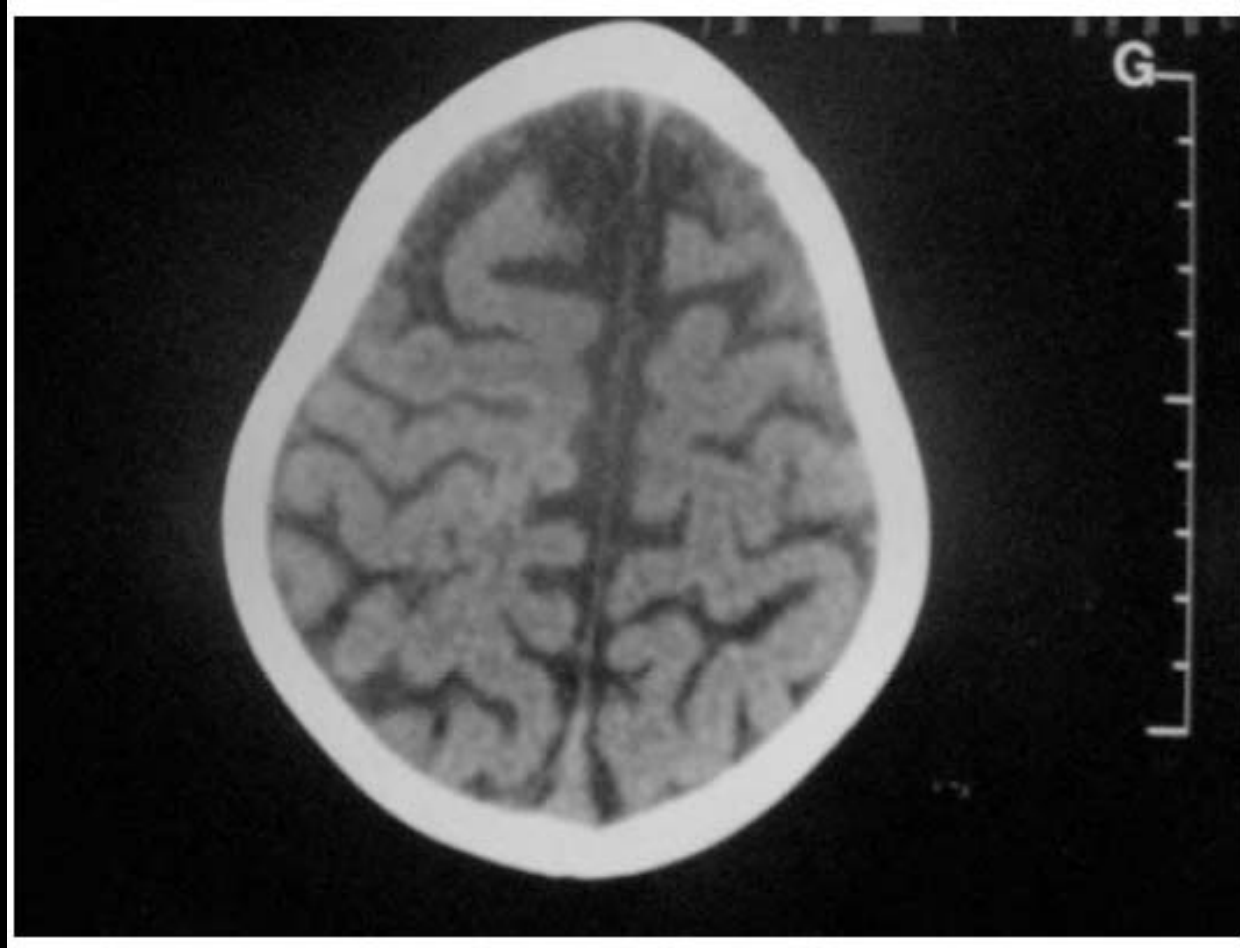
Normal Pressure Hydrocephalus

- Ventricular enlargement
- Most common in the elderly population
- It may result from a subarachnoid hemorrhage, head trauma, infection, tumor
- Symptoms of NPH include:
 - progressive mental impairment and dementia
 - problems with walking
 - impaired bladder control leading to urinary frequency and/or incontinence.
- DDX: Alzheimer's disease, and Parkinson's disease
- Appropriate testing:
 - including brain scans (CT and/or MRI)
 - spinal tap
 - intracranial pressure monitoring
 - neuropsychological tests
- Treatment for NPH involves surgical placement of a shunt

16. 50 year old with onset of inappropriate behavior.

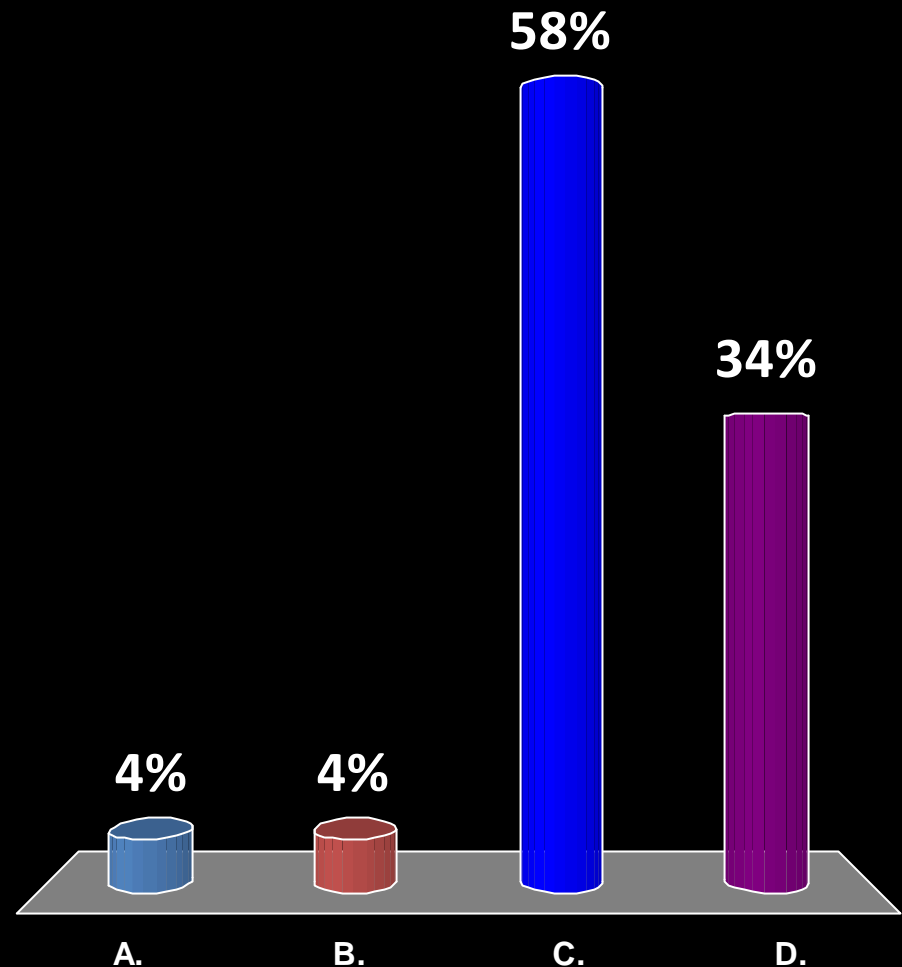
- Difficulty with decision making
- Word finding difficulties
- Difficulty with complex problem solving
- Mild memory loss
- Normal Neurologic exam
- MMSE = 25

Imaging



What is your diagnosis?

- A. Depression
- B. Lewy Body Dementia
- ✓ C. Pick's Disease
- D. Alzheimer's



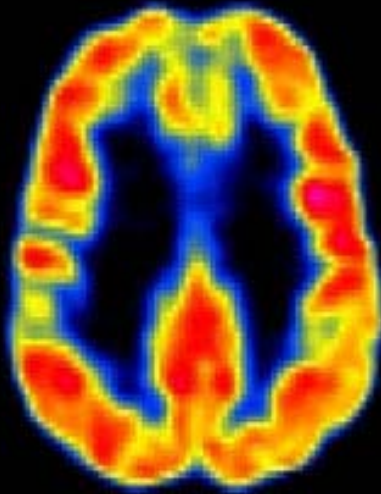
Fronto Temporal Dementia (Pick's Disease)

- Pick bodies and Pick cells neurons in frontal and temporal areas
- Pick bodies contain an abnormal form tau protein
- Many different abnormal genes have been found that can cause Pick's disease.
- Pick's disease is rare.
- The average age at which it begins is 54.

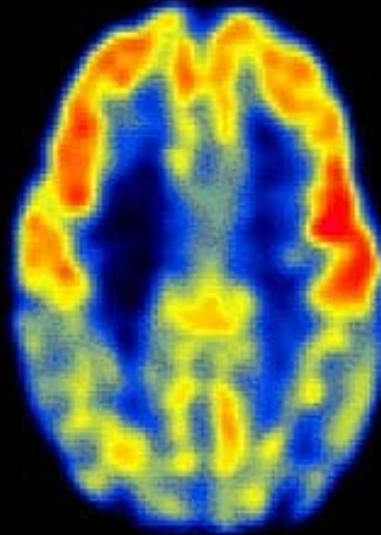
Clinical Symptoms and Signs

- Compulsive and inappropriate behaviors and moods
- Withdrawal from social interaction, mood changes
- Problems with personal hygiene
- Failure to show emotional warmth, concern, empathy, sympathy
- Not caring about events or environment or ADL's
- Rigidity
- Memory loss that gets worse, repetitive
- Movement/coordination difficulties (apraxia)
- Memory loss is usually mild
- Incontinence

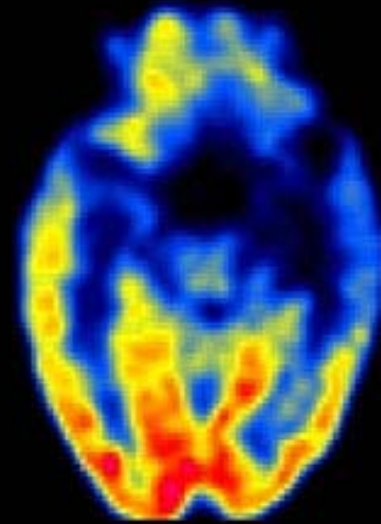
PET Imaging



NORMAL AGING



ALZHEIMER'S



PICK'S

FDG-PET is useful for distinguishing between Alzheimer's and fronto-temporal (Pick's) dementias and is now Medicare reimbursable for this purpose.