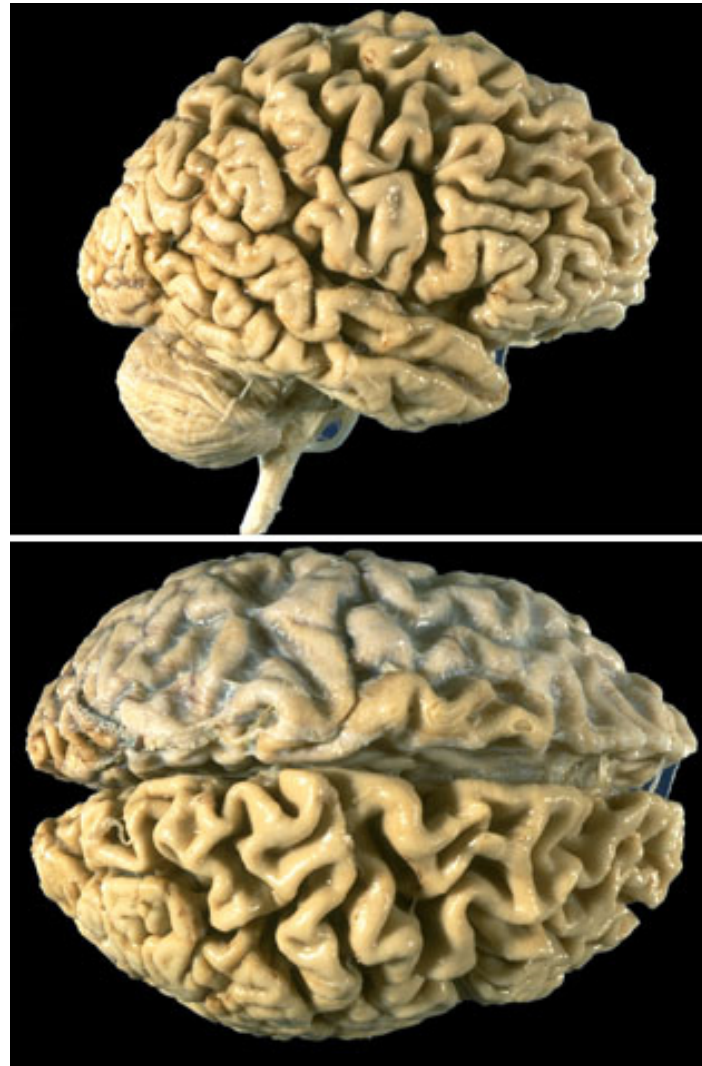
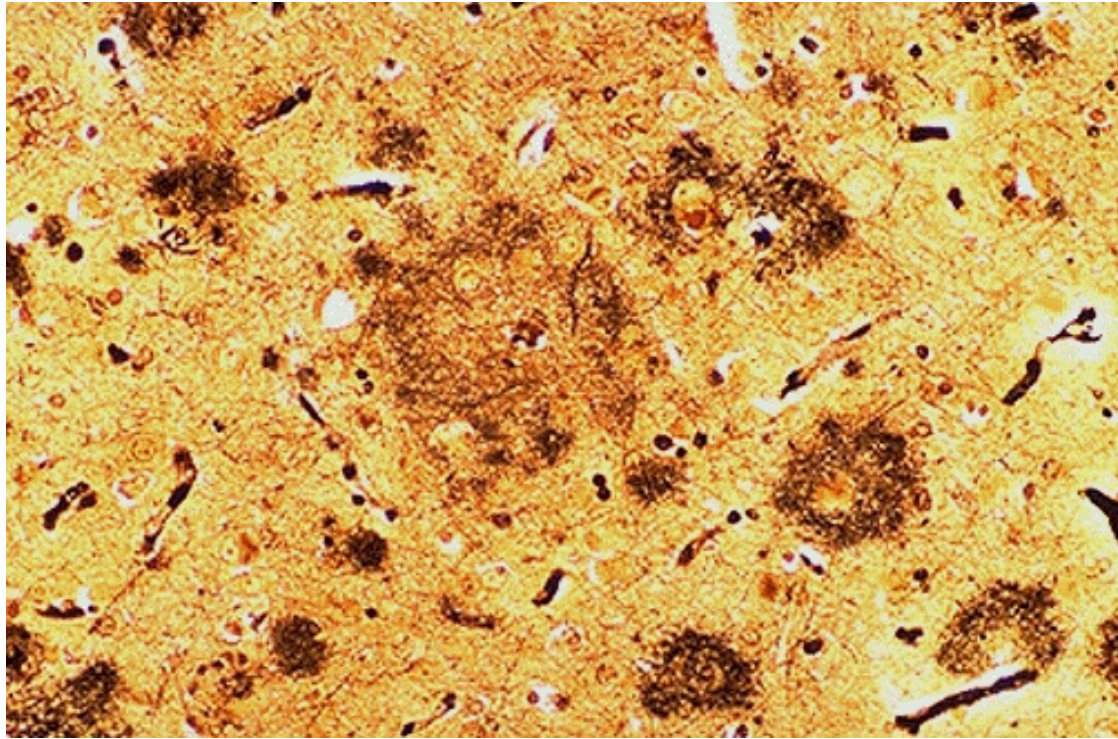


Neuroscience2
Pathology lab
part 2

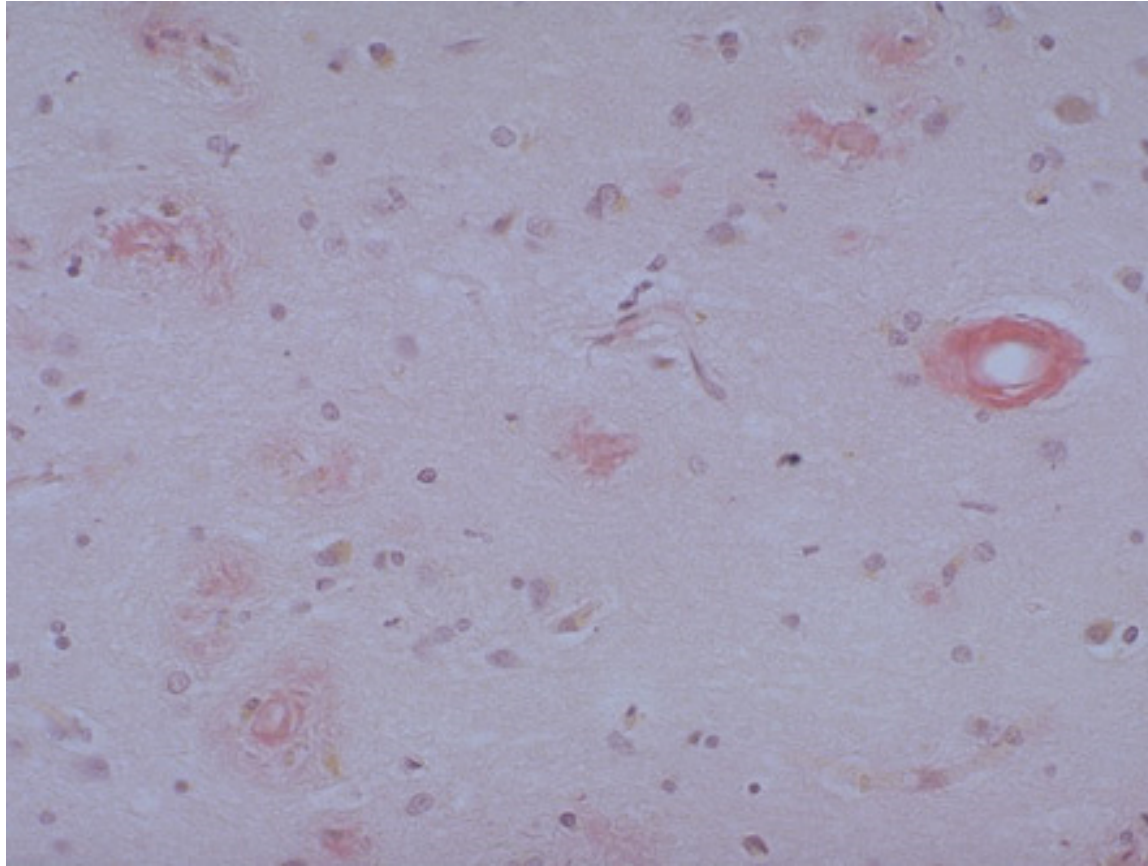
In this case of Alzheimer's disease, there is more marked atrophy seen superiorly and laterally, with sparing of the occipital region.



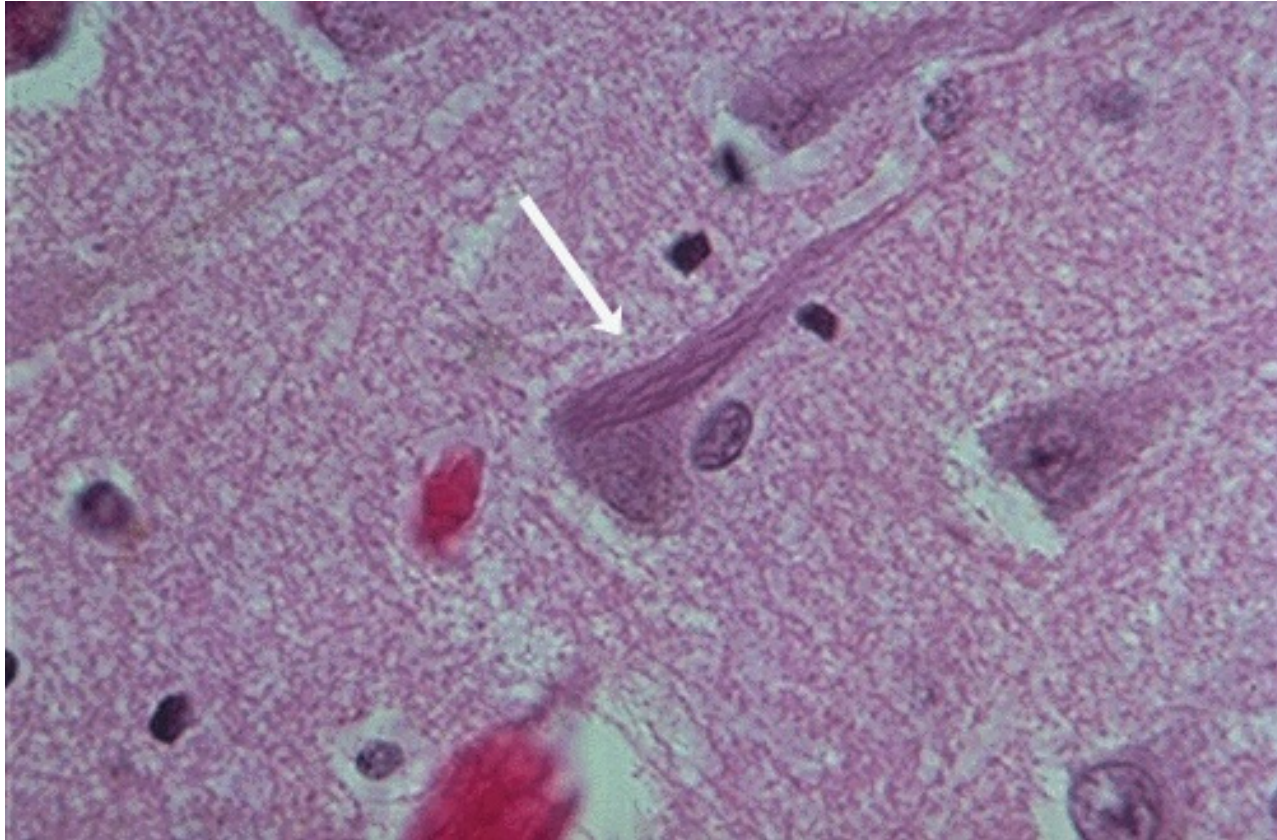


Name the structures seen here in this silver stained section of the brain
What are these structures made from?
What disease is characterized by the presence of these structures?

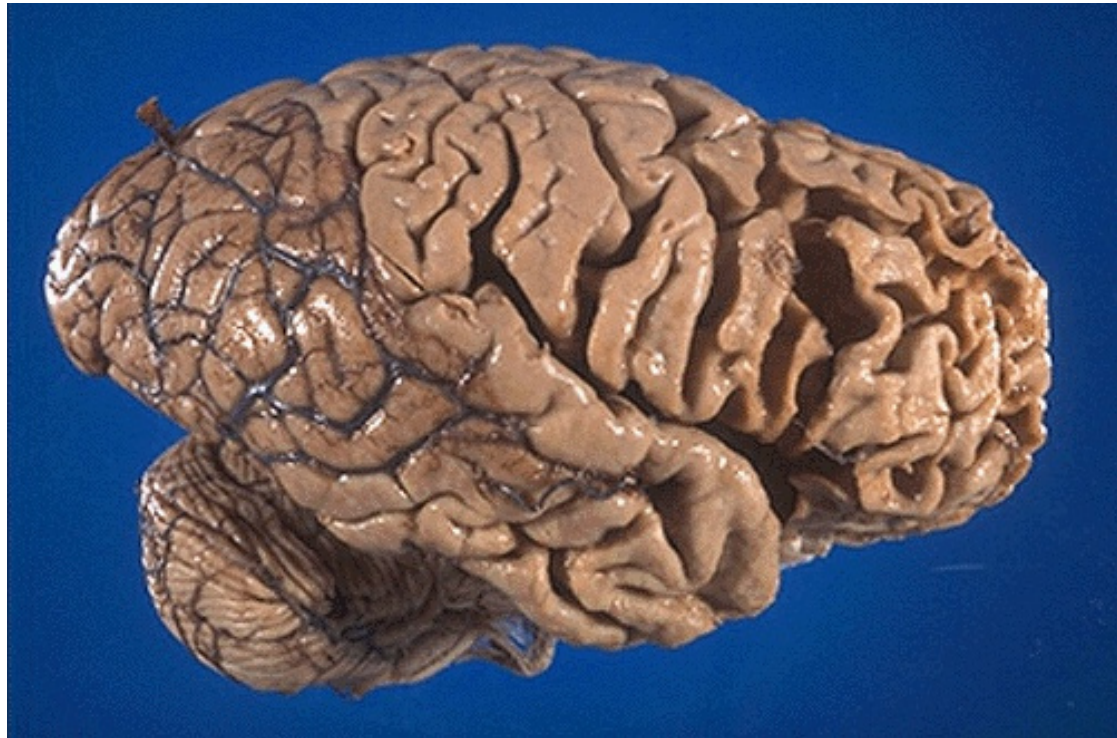
The characteristic microscopic findings of Alzheimer's disease include "senile plaques" which are collections of degenerative presynaptic endings along with astrocytes and microglia. These plaques are best seen with a silver stain, as seen here in a case with many plaques of varying size.



A number of neuritic plaques with Alzheimer's disease are seen here. They have an amyloid core as seen here with **Congo red stain**. Small peripheral cerebral arteries may also be involved.

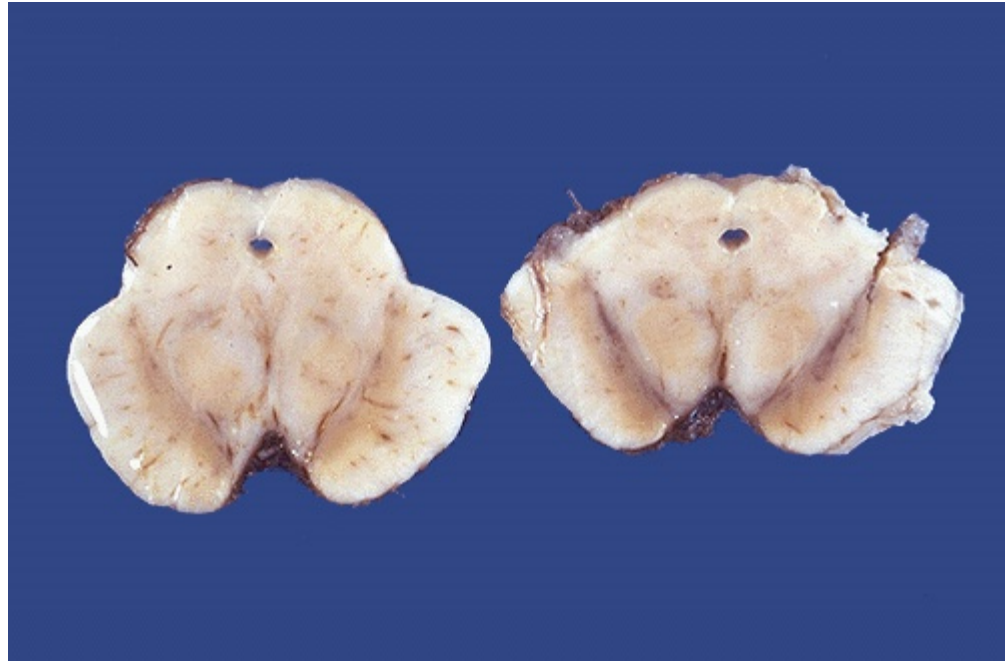


This is a neurofibrillary "tangle" of Alzheimer's disease. The tangle appears as long pink filaments in the cytoplasm.



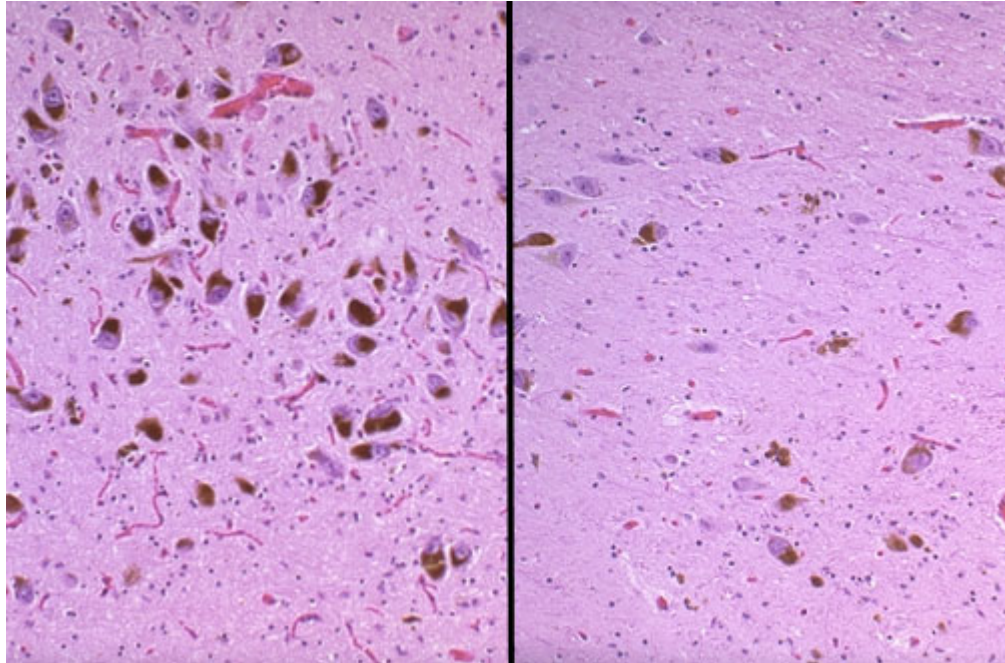
Describe what you see and what is your diagnosis?

The very marked frontotemporal atrophy seen here is due to another much less common type of dementia known as Pick's disease.

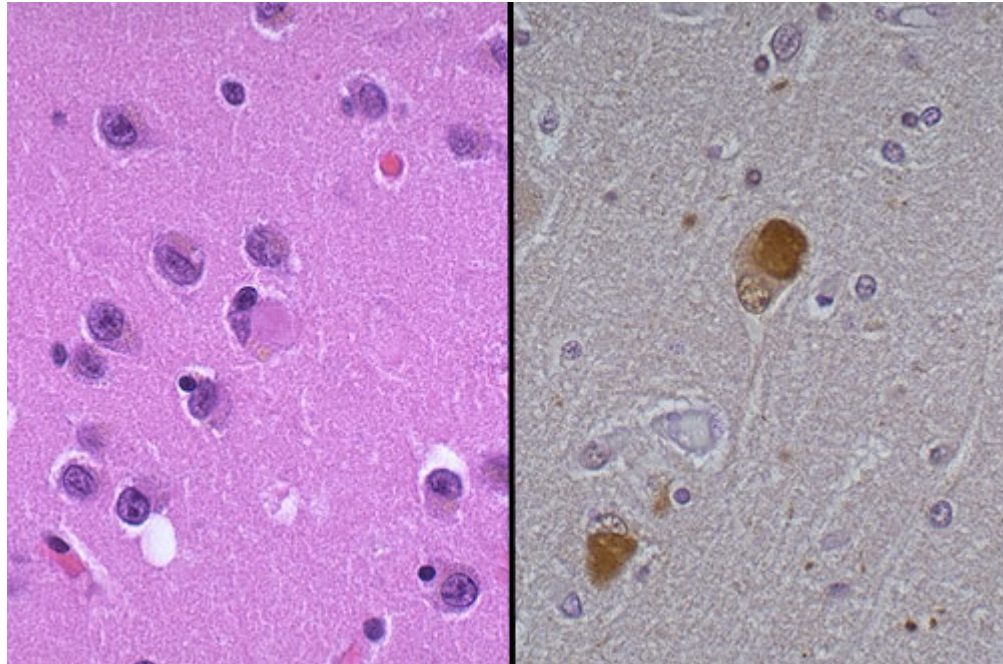


Describe what you see and what is your diagnosis

The loss of pigmentation in the substantia nigra of the midbrain at the left in a patient with Parkinson's disease is contrasted with a normal midbrain at the right. Parkinson's disease is marked clinically by a "pill-rolling" tremor at rest, mask-like faces, and cogwheel rigidity of limbs, among other findings.



At the left, normal numbers of neurons in the substantia nigra are pigmented. At the right, there is loss of neurons and loss of pigmentation with Parkinson's disease.



At the left, an H and E stain demonstrates a rounded pink cytoplasmic Lewy body in a neuron of the cerebral cortex from a patient with diffuse Lewy body disease, which can be a cause for dementia. Lewy bodies can also be seen in substantia nigra with Parkinson's disease. An immunoperoxidase stain for ubiquitin, seen at the right, helps demonstrate the Lewy bodies more readily.

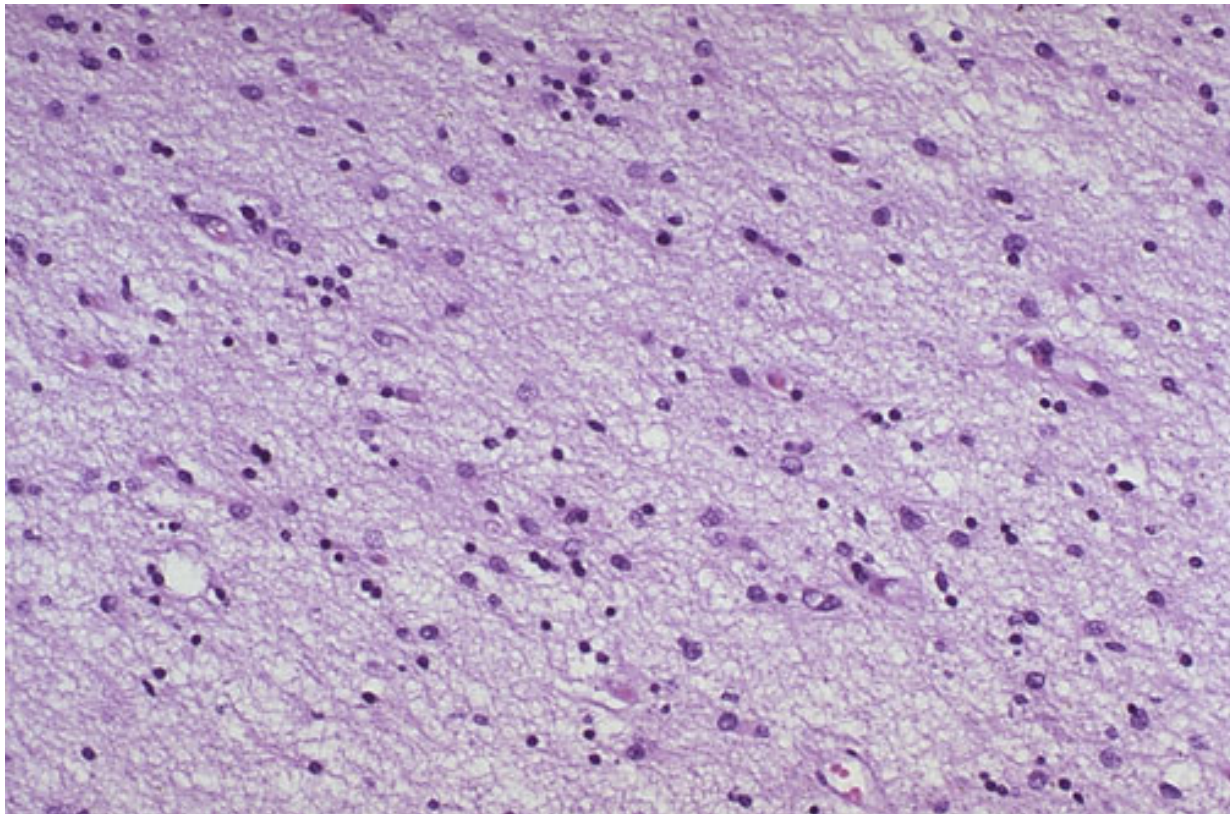


Because of the loss of anterior horn cells, the anterior (ventral) spinal motor nerve roots demonstrate atrophy, as seen here in comparison with a normal spinal cord.



Huntington's disease

The apparent enlargement of the ventricles seen here is due to atrophy of the head of the caudate from neuronal loss with Huntington's disease, an autosomal dominant condition characterized clinically by choreiform movements.



Huntington's disease

Microscopically, the caudate nucleus in Huntington's disease demonstrates loss of neurons along with gliosis. The onset of this disease occurs in middle age. This disease results from an abnormal gene on chromosome 4 which codes for a protein containing increased trinucleotide repeat sequences. The greater the number of repeats, the earlier the onset of the disease.

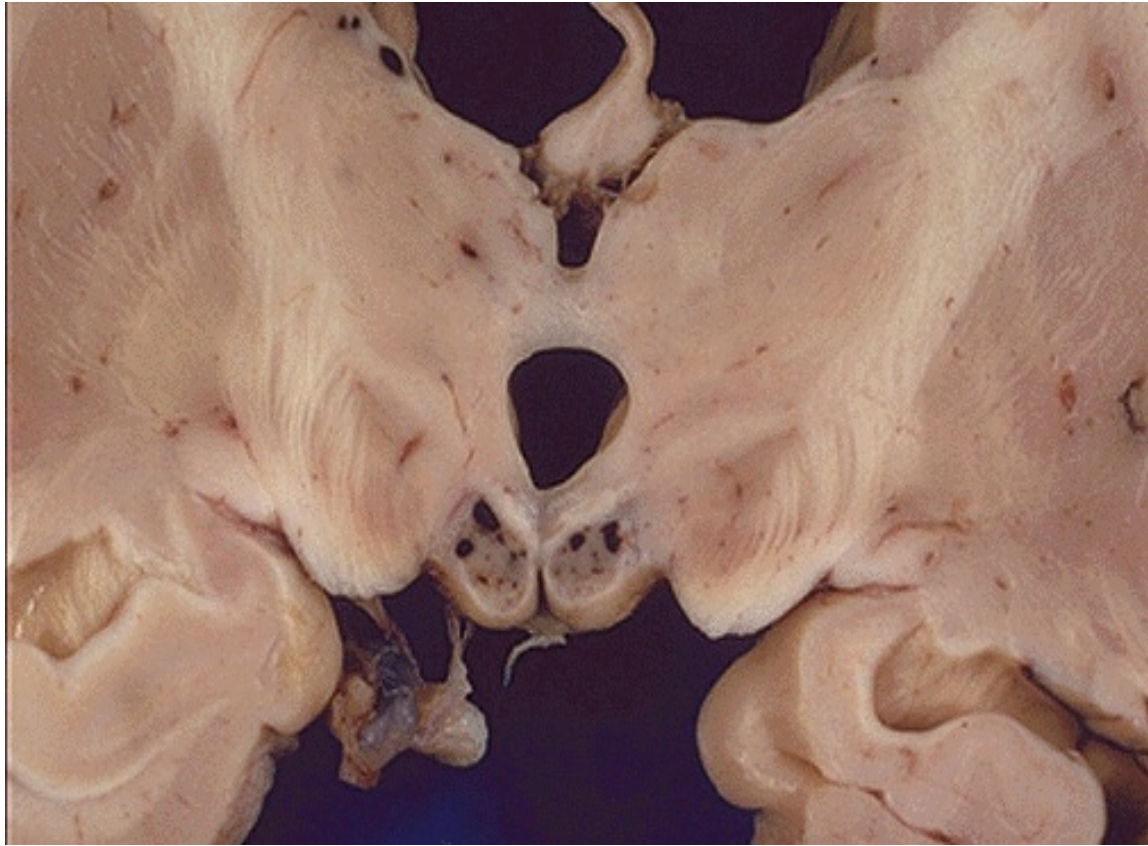


Multiple sclerosis (MS).

Seen here in white matter is a large "plaque" of demyelination. The plaque has a grey-tan appearance. Such plaques are typical for multiple sclerosis (MS).



What is abnormal with the cerebellum
What is the cause of this abnormality



THANK YOU