

Pathology tutorials for Year 5 medical students

SESSION AIMS

- To provide an engaging and clinically relevant pathology teaching session, using gross pathology specimens, supported by histology and radiology images.
- To signpost to students how an understanding of pathology, and the basic sciences, enhances clinical reasoning.

NEUROPATHOLOGY TUTORIAL SUMMARY

- The emphasis is on the use of specimens and developing clinical reasoning.
- The appropriate specimens will be set out prior to the start of the tutorials.
- Note that questions referring to supporting imaging or specimens are highlighted with Specimen at the start.

* PLEASE NOTE THAT PHOTOGRAPHY OF THE SPECIMENS IS STRICTLY PROHIBITED*

Clinical scenario A (15 mins)

Case history

A 72 year old woman presents in A&E with sudden onset pain behind the right eye, diplopia, and ptosis. The ptosis had been present for a number of years, and had led to her being diagnosed with myasthenia gravis.

1. Initial thoughts on original diagnosis? Why?
2. What are some other causes of ptosis?
3. How might you clinically distinguish between two of these clinically?
4. What tests might you ask for to explore this further?

5. **Review head CT. What do you see?** (Image courtesy of Dr. Mary Roddie, Imperial College Healthcare NHSTrust).



6. **Specimen X2.3444 (E1418):** What do you see on the left specimen?
7. **What is the structure of this pathology?**
8. **What is the major clinical concern?**
9. **Given the CT, what treatment would you advise?**
10. **Specimen X2.3444 (E1418):** In this case, an old fashioned treatment was performed. The common carotid was compressed, and EEG performed, and then the common carotid was ligated. Why?

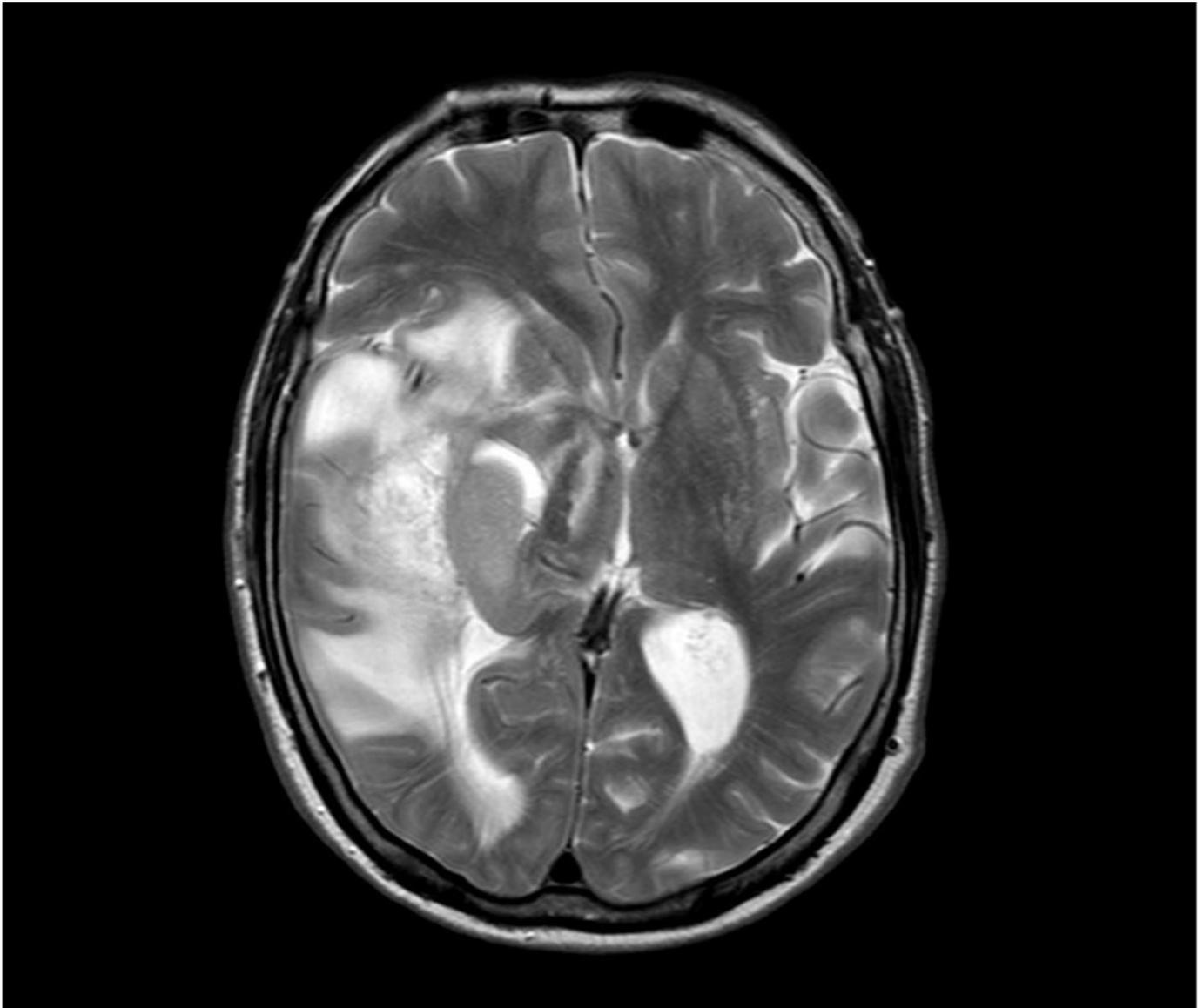
Clinical scenario B (10 mins)

Case history

63-year-old woman is referred to a neurologist with a left-sided homonymous hemianopia of 1 months' duration, combined with a frontal headache that's severe enough to wake her up at night and increasing confusion.

1. Initial thoughts? Why?
2. Draw how a left-sided homonymous hemianopia is represented in patient notes.
3. Given the left sided homonymous hemianopia, where are the possible sites of disruption? Draw the pathway...

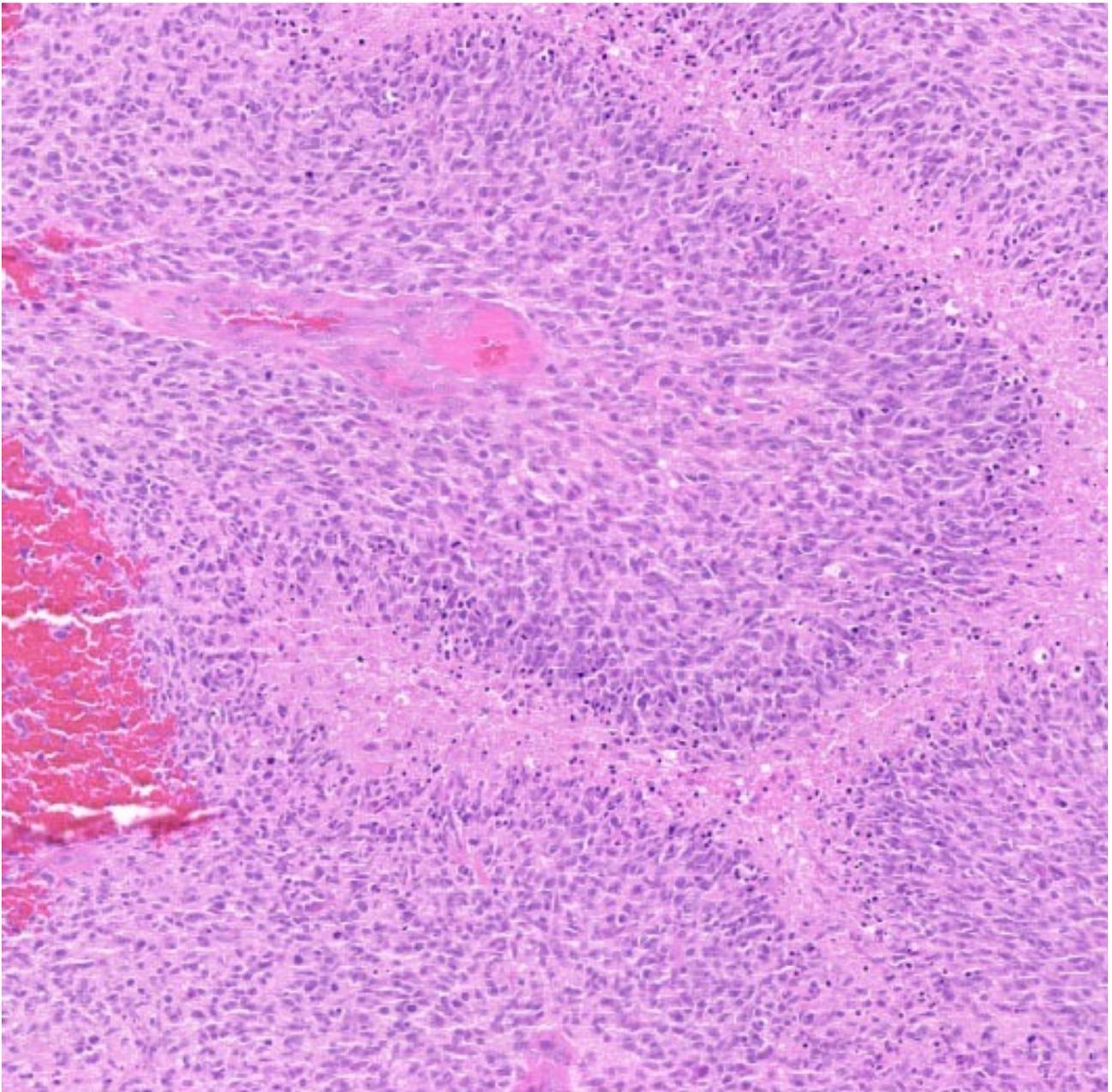
4. **Review the MRI. What can you see?** (*Image courtesy of Dr. Mary Roddie, Imperial College Healthcare NHSTrust*).

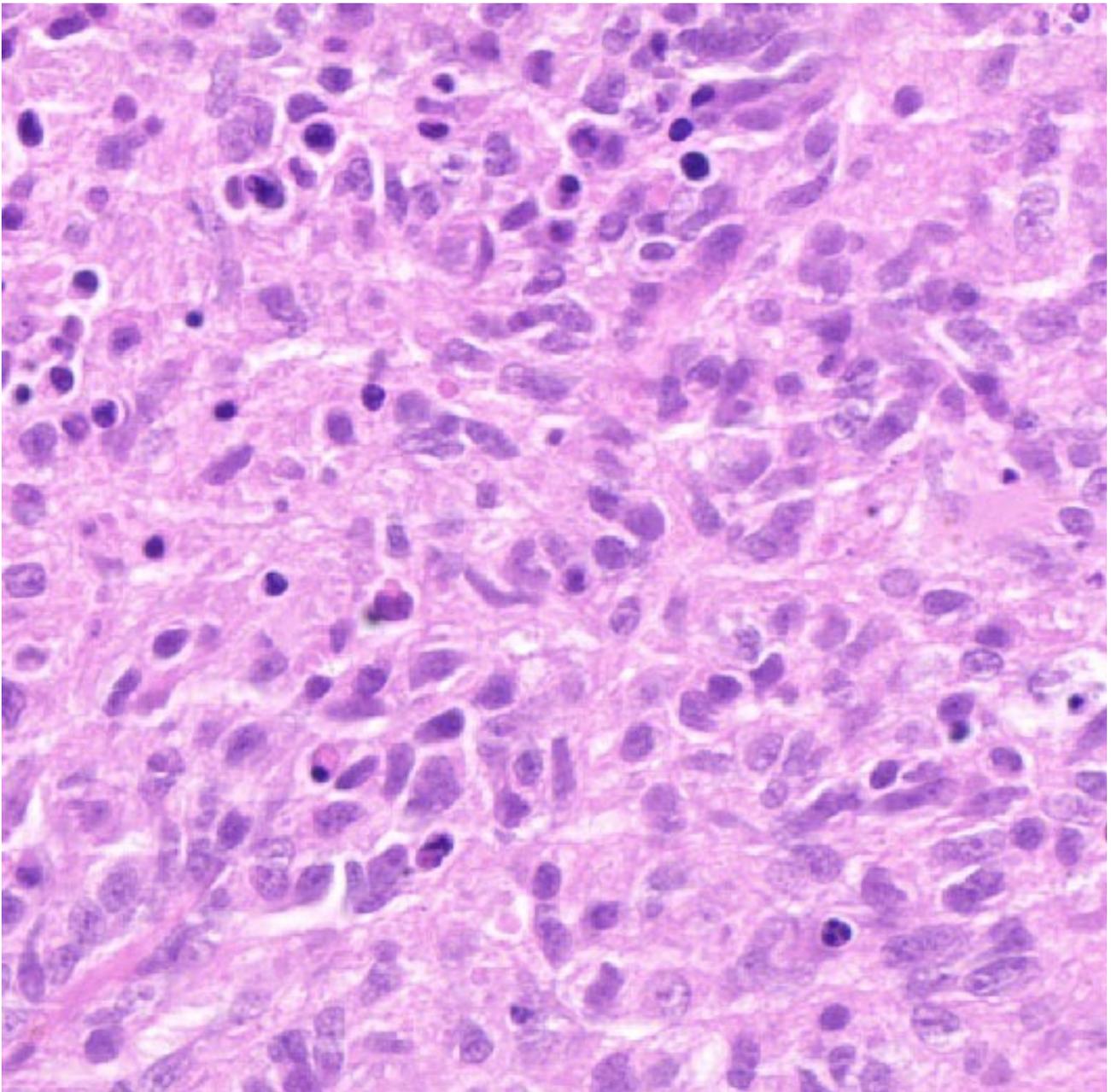


5. **Specimen X2.9443 E1124:** The patient rapidly deteriorated and died. This specimen shows a slice of brain at autopsy. What are the major neuroanatomical regions, and describe the lesion?

6. From the specimen, what was the cause of the homonymous hemianopia?

7. **Slides:** Review the histology. What can you see? (*Images courtesy of Prof Stephen Gentleman, Imperial College London*).





8. What is the prognosis?

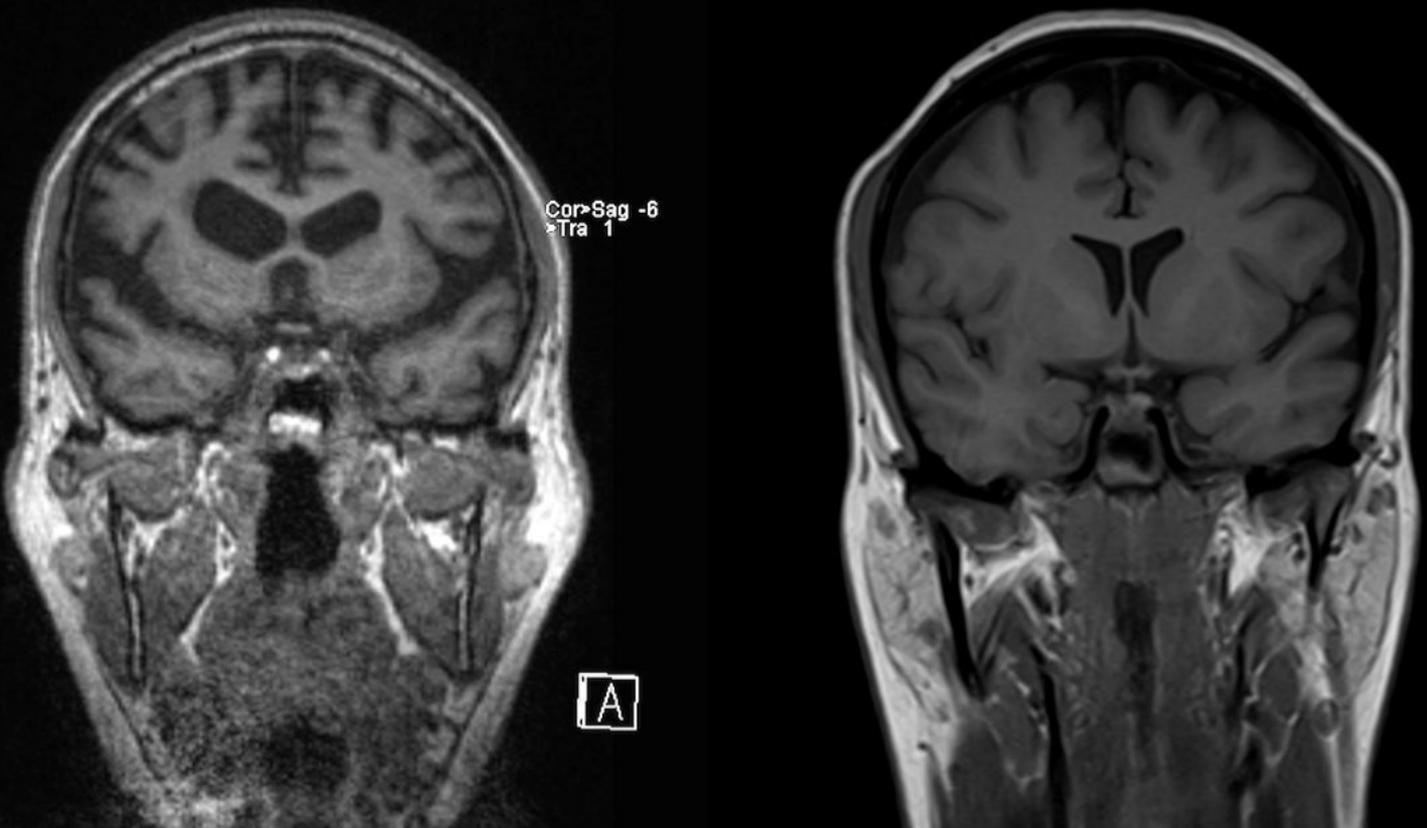
9. What symptoms might occur as the disease progresses?

Clinical scenario C (10 mins)

Case history

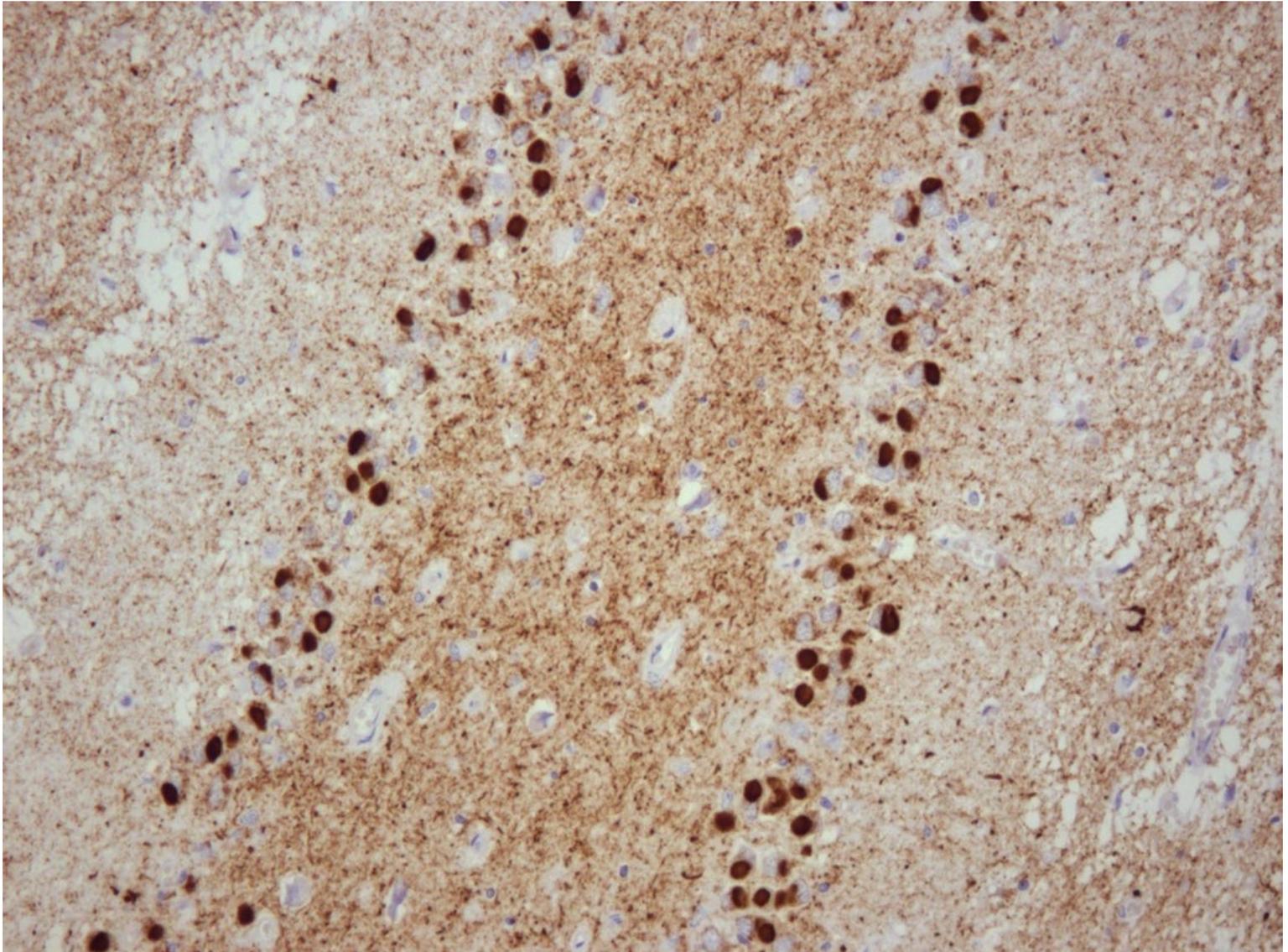
A woman comes to her GP with her 50 year old husband. She describes how at dinner last night with a longstanding friend, her husband was unable to remember the name of their friend, and seemed to occasionally misunderstand some of what was being said. After the meal the friend asked her privately if her husband was alright. She says that in retrospect over the last 2-3 years she too has noticed her husband increasingly struggle to find the right word for things, which she'd initially attributed to age. In addition he has also become increasingly emotionally withdrawn and apathetic, spoke very little, and has recently started playing the card game 'Patience' obsessively.

1. Initial thought? Why?
2. How would you reach a diagnosis?
3. Review the MRI images below. What can you see? (Image courtesy of Dr. Mary Roddie, Imperial College Healthcare NHSTrust).



4. **Specimen:** Over the next 5 years the patient's condition gradually deteriorated. He became increasingly aggressive, unable to recognise others and unable to retain new information. After death, there was an autopsy to confirm the clinical diagnosis. What does the specimen show?

5. **Review the histology. What can you see?** (*Images courtesy of Prof Stephen Gentleman, Imperial College London*).



6. **Slides:** How does this histological profile shown below differ from the one above?
(Images courtesy of Prof Stephen Gentleman, Imperial College London).

