Different strokes for different folks

Dr Jasmini Alagaratnam

Specialty Trainee GU/ HIV Medicine

St Mary's Hospital, London

June 2019

Presentation

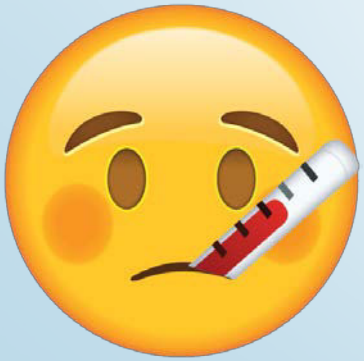
- 53 year old MSM, diagnosed with HIV 2015
  - Did not engage with care, lost to follow up
- Presented to Sexual Health clinic: March 2018
  - Wanted to re-engage in care & start cART
  - Well in himself
- Initial bloods:
  - $CD4+$ count: 97 cells/µL
  - HIV RNA load: 145,126 copies/mL, wild type virus
- Started on tenofovir-DF + emtricitabine + raltegravir + prophylactic co-trimoxazole

Background

- No significant past medical history
- Non-smoker
- No alcohol intake
- No recreational drugs
- No regular medications

1st Admission May 2018

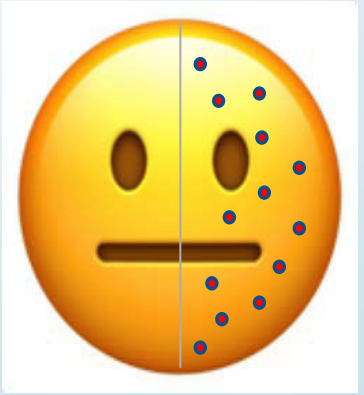
- Attended HIV emergency clinic: Feeling unwell
- Had stopped taking co-trimoxazole (thought it was a short course)



Fevers

SOB
Dry cough
Sore throat

Nausea



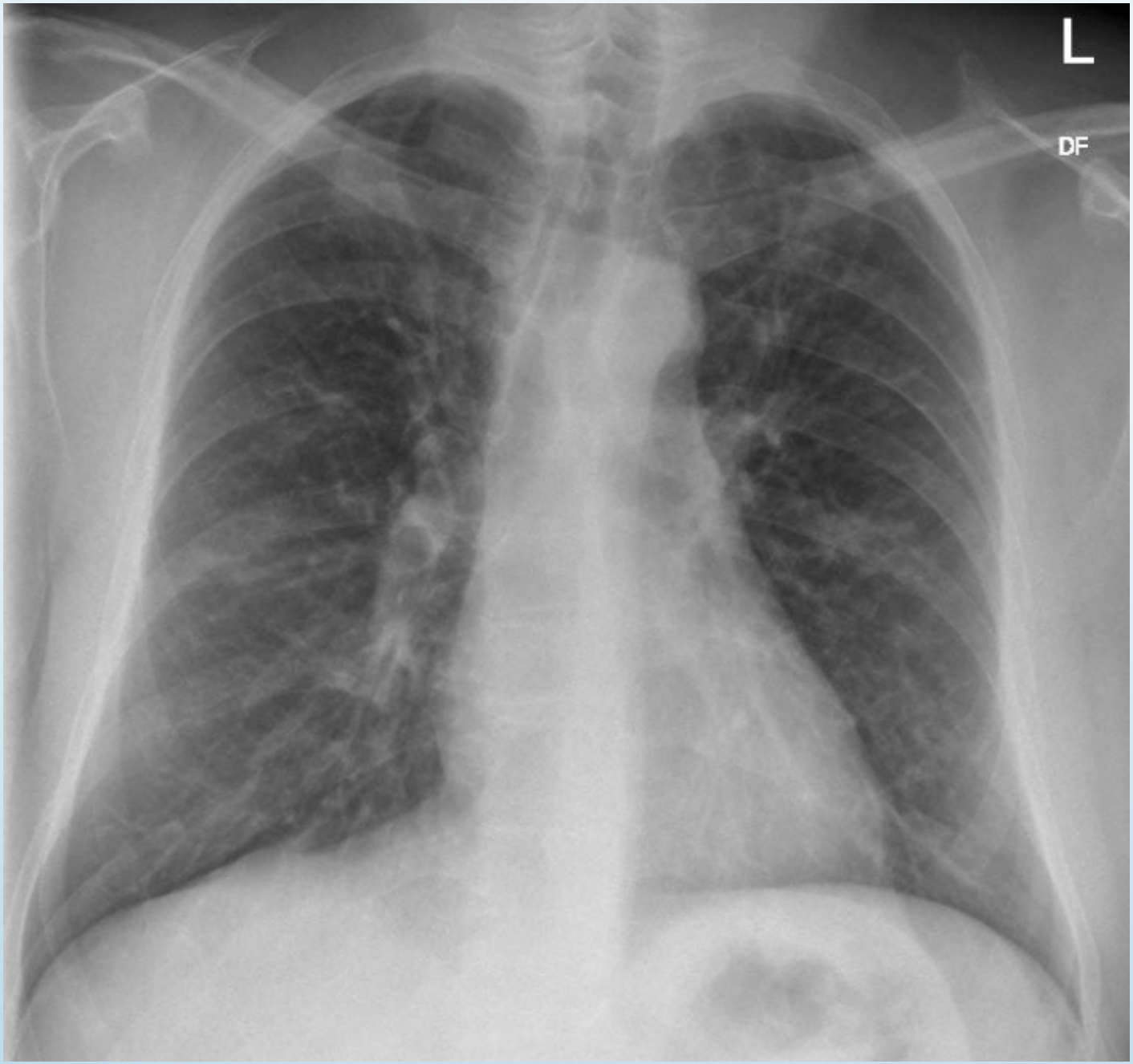
Recent shingles
Left T4

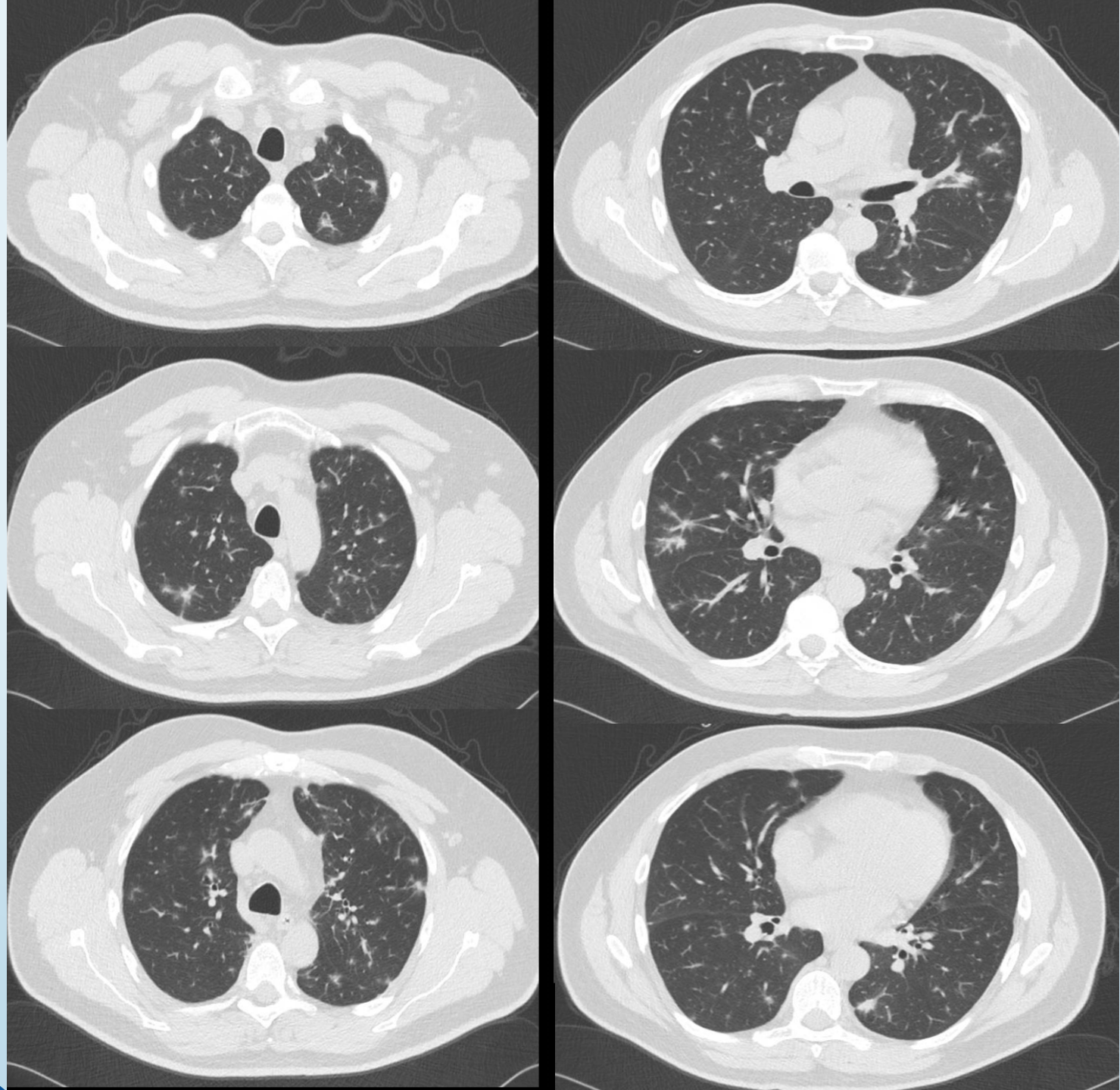
Arterial blood gas (on air)

- pH 7.48
- pO_2 7.7
- pCO_2 3.9
- Bicarbonate 22.0
- Lactate 1.7

Blood tests

- Hb 100
- MCV 88.6
- WBC 5.5
- Plt 439
- CRP 15
- Normal renal function
- ALT 20, ALP 218
- LDH 386


L
DF



What do you think is the diagnosis?

A. Community acquired pneumonia
B. Viral respiratory tract infection
C. Pneumocystis jiroveci pneumonia
D. Varicella zoster virus pneumonitis
E. Pulmonary Kaposi sarcoma

What did we do?

- Started treatment for:
  - Community acquired pneumonia
  - Pneumocystis jirovecii pneumonia
- Arranged bronchoscopy
  - Positive for Rhinovirus only

→ Diagnosed with Rhinovirus infection

Patient recovered well and discharged on 9/5/18

2nd Admission – 02/06/18

Dizziness

Left frontal headache

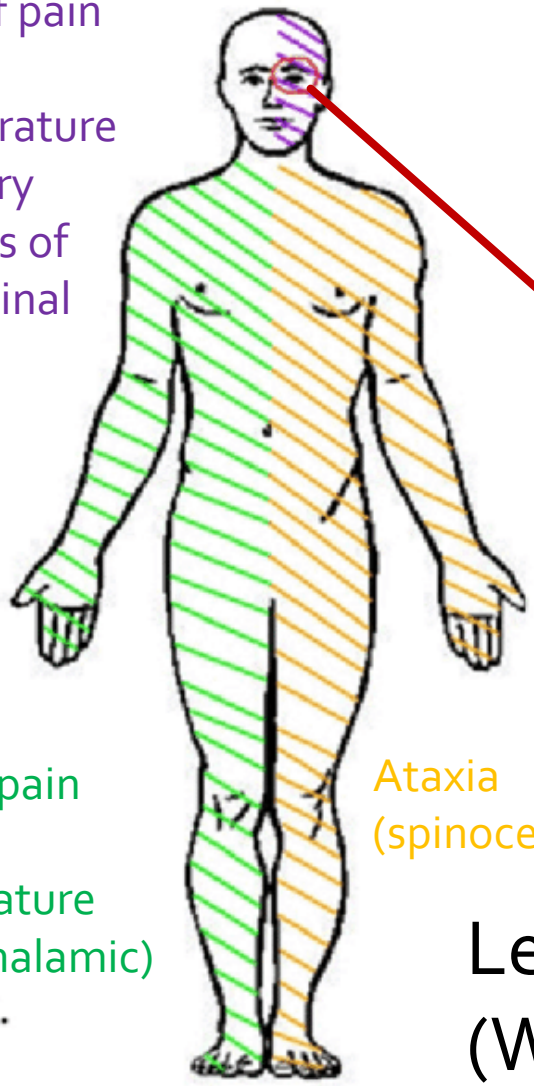
Left Horner's syndrome:
- Left ptosis
- Left miosis
- Left anhydrosis

Ataxia
- veering to left

Loss of pain and temperature sensation
- left face
- right side of body

Dysphagia

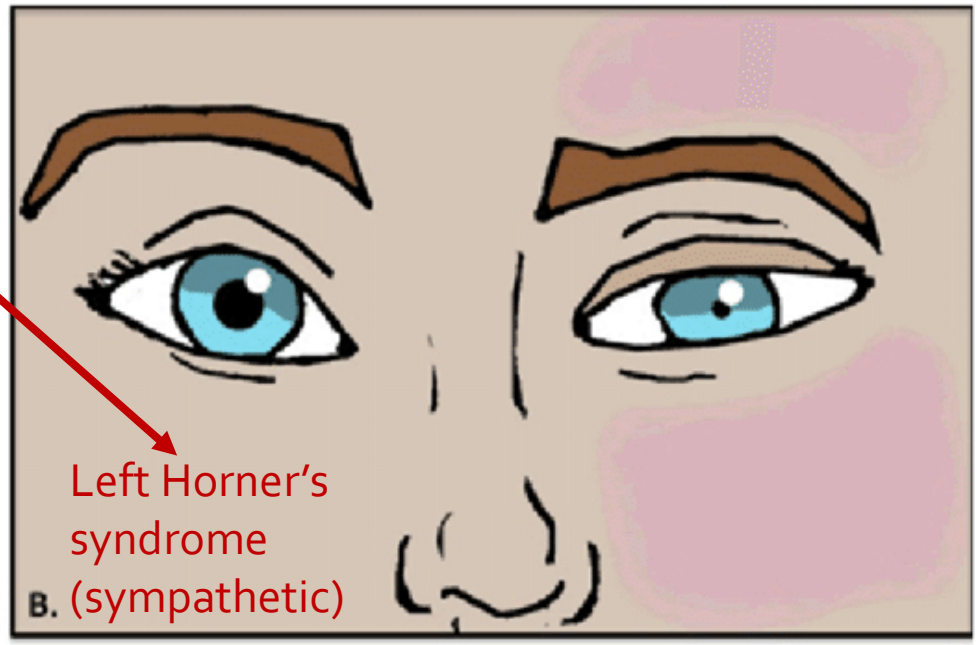
Loss of pain and temperature (sensory nucleus of trigeminal nerve)



A.

Loss of pain and temperature (spinothalamic)

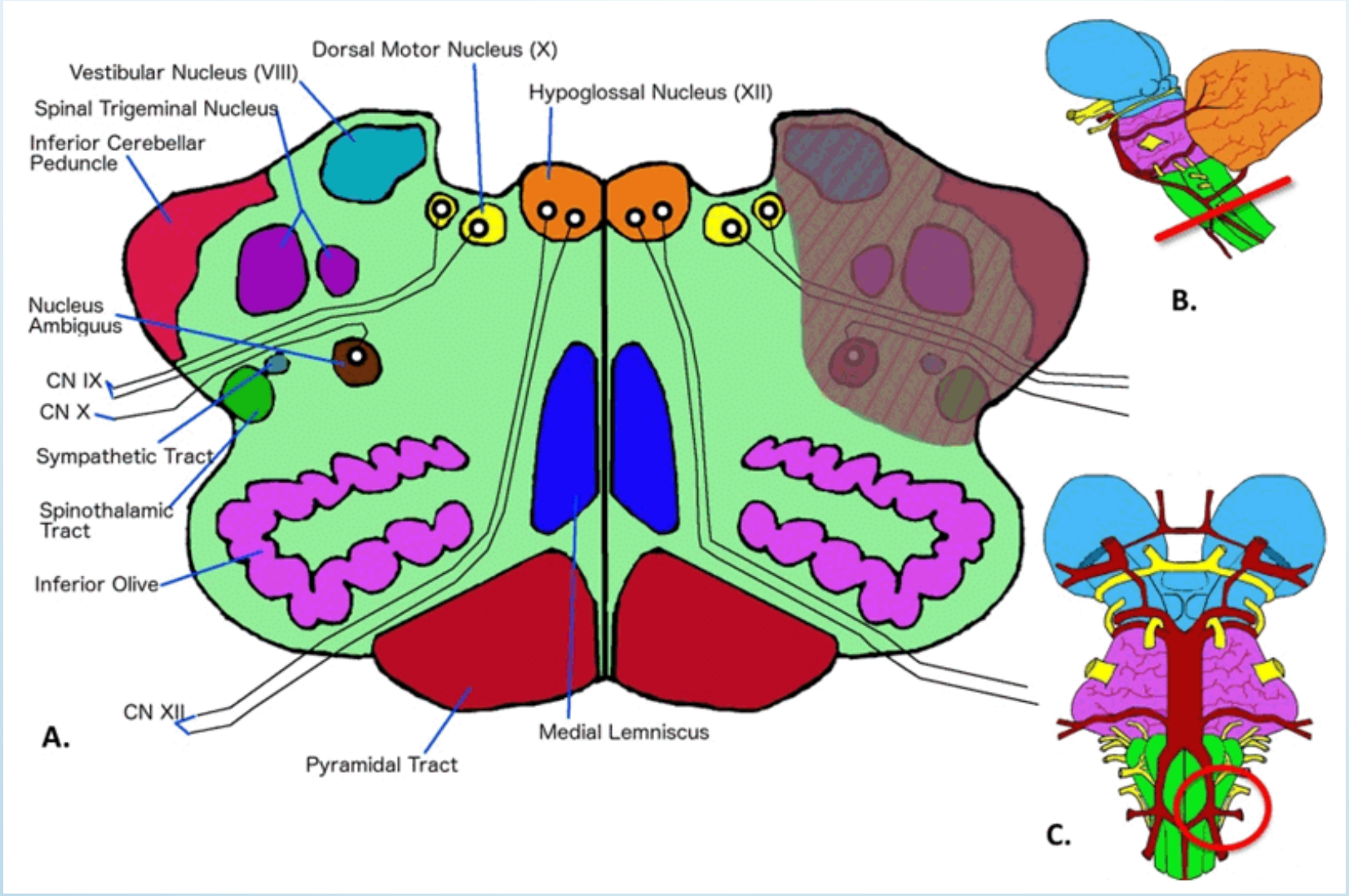
Ataxia (spinocerebellar)



Left Horner's syndrome (sympathetic)

B.

Left lateral medullary syndrome (Wallenberg syndrome)


Dorsal Motor Nucleus (X)
Vestibular Nucleus (VIII)
Hypoglossal Nucleus (XII)
Spinal Trigeminal Nucleus
Inferior Cerebellar Peduncle
Nucleus Ambiguus
CN IX
CN X
Sympathetic Tract
Spinothalamic Tract
Inferior Olive
CN XII
A.
Pyramidal Tract
Medial Lemniscus
B.
C.

Initial imaging

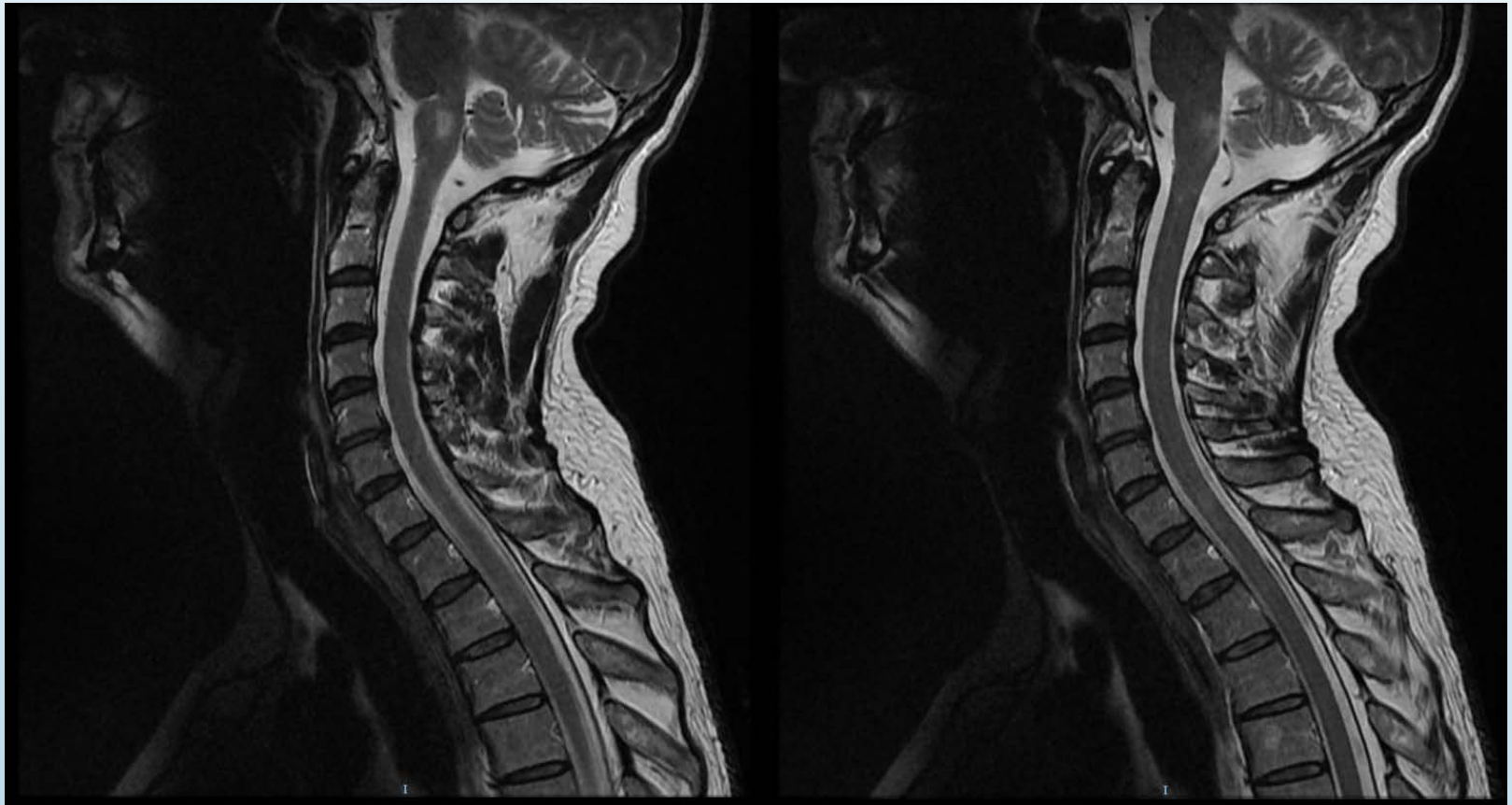
- CT Brain 2/06/18 – unremarkable
- MRI Brain 2/06/18 – unremarkable

Lumbar puncture

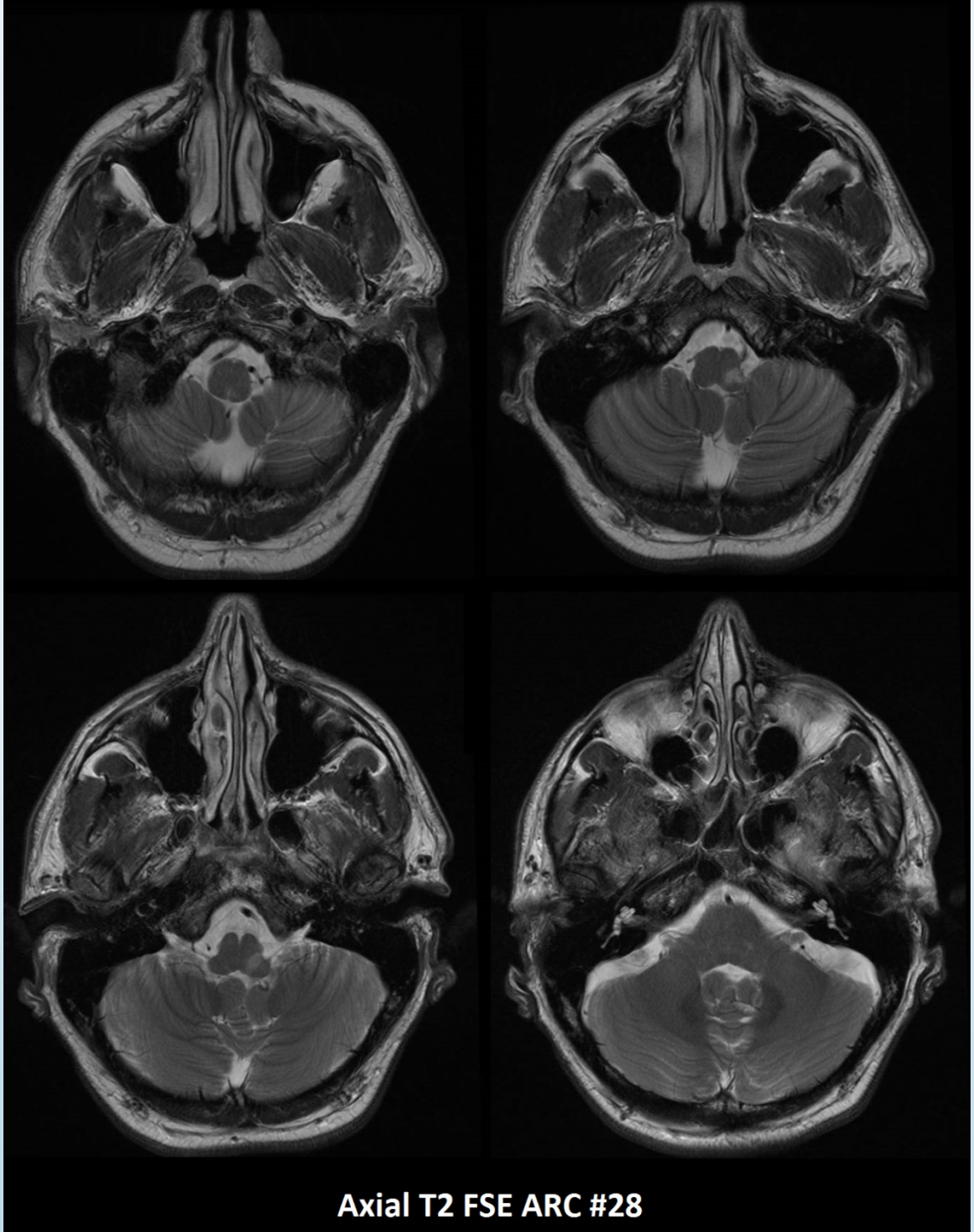
Date	WCC, cells/mL	% mononuclear	RBC, cells/mL	Protein, g/L	Glucose (serum), mmol/L
2/6/2018	3	N/A	4	0.35	3.3 (7.1)
4/6/2018	6	90	177	0.29	3.1 (5.1)

- Opening pressure 10-20 cm CSF throughout
- Negative for xanthochromia, syphilis and cryptococcal antigen
- No organisms seen
- HIV RNA 100 copies/ml (paired plasma HIV RNA 200 cp/mL)
- Viral panel:
  - Negative for HSV, Enterovirus, JCV, CMV, EBV
  - **Weakly positive for VZV DNA**

7/6/18 – MRI C-spine with contrast



Sagittal T2 FRFSE #17



Axial T2 FSE ARC #28

What might have caused this in this patient?

A. Primary infarct
B. Vertebral artery aneurysm
C. VZV encephalitis
D. Intra-cerebral vasculitis
E. Occult malignancy

VZV vasculitis:
- Recent shingles
- VZV DNA in CSF

Management

- Treated with 15mg/kg aciclovir IV 8 hourly
- 5/7 Prednisolone 1mg/kg

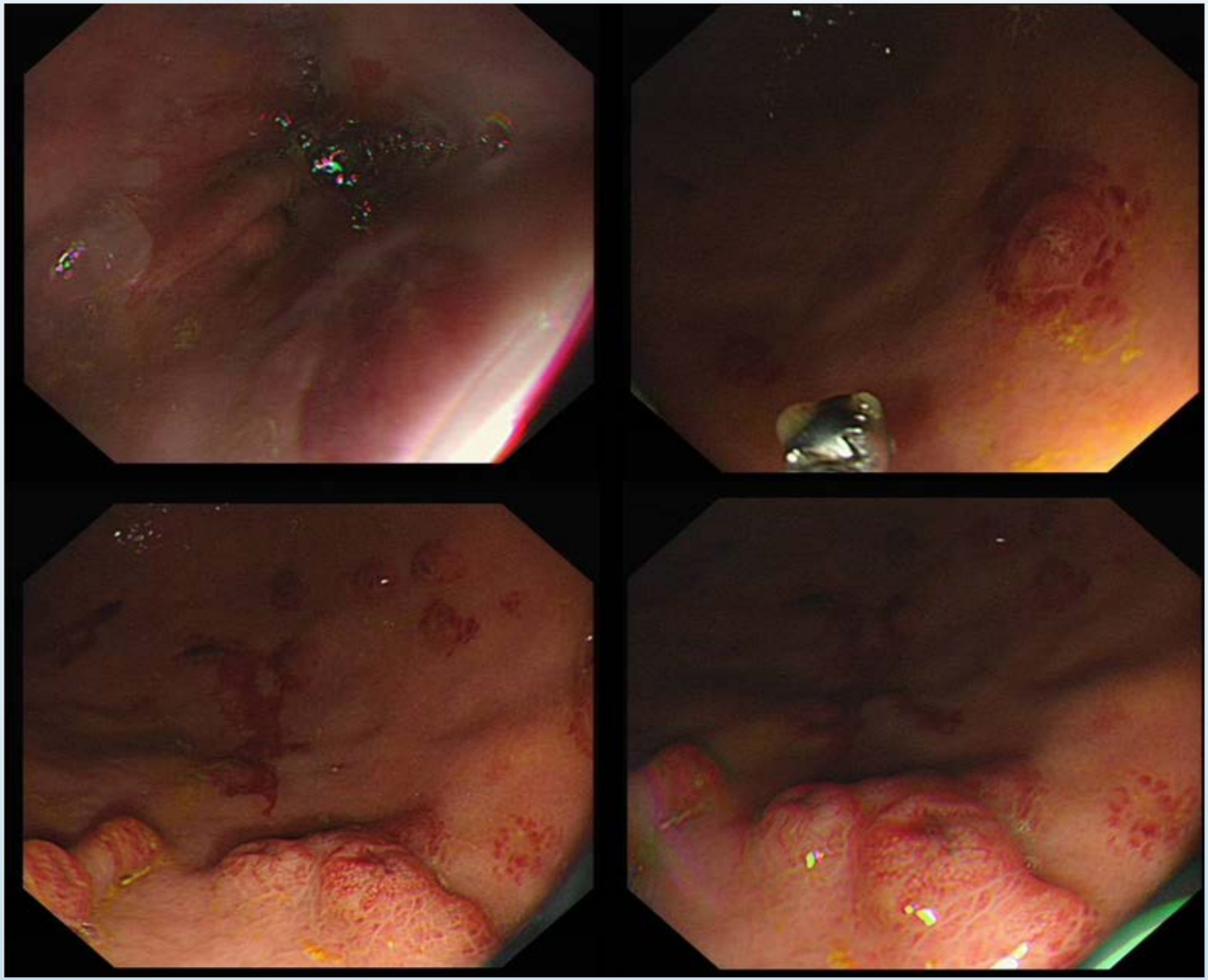
- Good clinical recovery
- Repeated CSF collection:
  - remained weakly positive for VZV DNA until D21 of treatment

- Continued on oral valaciclovir 1g twice daily

22/06/18 – MRI brain with contrast

BUT – not all good news…

- Skin review 14/6/18 – 2x new purple lesions on right upper arm
- Purple lesion noticed on palate
- Ongoing changes on CT chest and hypoxia



Gastric biopsies confirmed Kaposi sarcoma

Ongoing management

- Patient referred to regional HIV oncology unit for management of KS
- Continued with oral valaciclovir
- Completed chemotherapy (6x 3 weekly daunorubicin) for KS Oct '18
- Continued TDS valaciclovir during chemo but still had recurrence of shingles T_4 dermatome
- Now on BD valaciclovir prophylaxis
- Continues to have mild right sided sensory impairment
- May 2019: CD_4+ count 280 cells/µL, VL <20cp/mL
- Due repeat MRI brain

VZV vasculopathy

- VZV: the only human virus shown to cause vasculopathy
- Caused by direct infection of blood vessels by VZV
- Increased risk of stroke following VZV infection
  - Can cause infarction, aneurysm, subarachnoid & intra-cerebral haemorrhage, dissection (rarely peripheral arterial disease)
- 2/3rds patients have mononuclear CSF pleocytosis, often with RBCs
- VZV IgG more commonly detected than DNA
- More common in immunocompromised, can occur with IRIS
- No clear guidelines on therapy
  - Uncertain duration
  - Role of steroids

In summary

- Complicated case in a patient with advanced HIV :
  - Rhinovirus infection
  - Shingles
  - VZV vasculitis causing a left lateral medullary infarct
  - Visceral Kaposi's sarcoma (GI tract and lungs)

→There is a risk of significant neurological complications following shingles

→Highlights the importance of engaging patients in care early

Acknowledgements

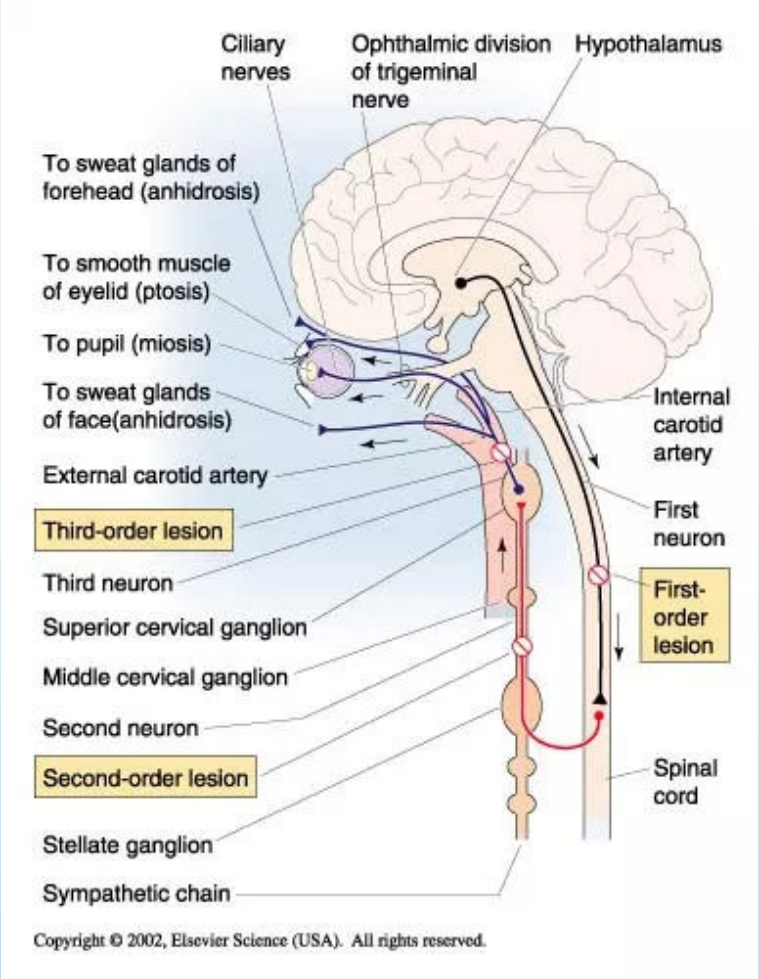
HIV Inpatient Team at St Mary's Hospital, London:

Dr Tamara Elliott

Dr James Norman

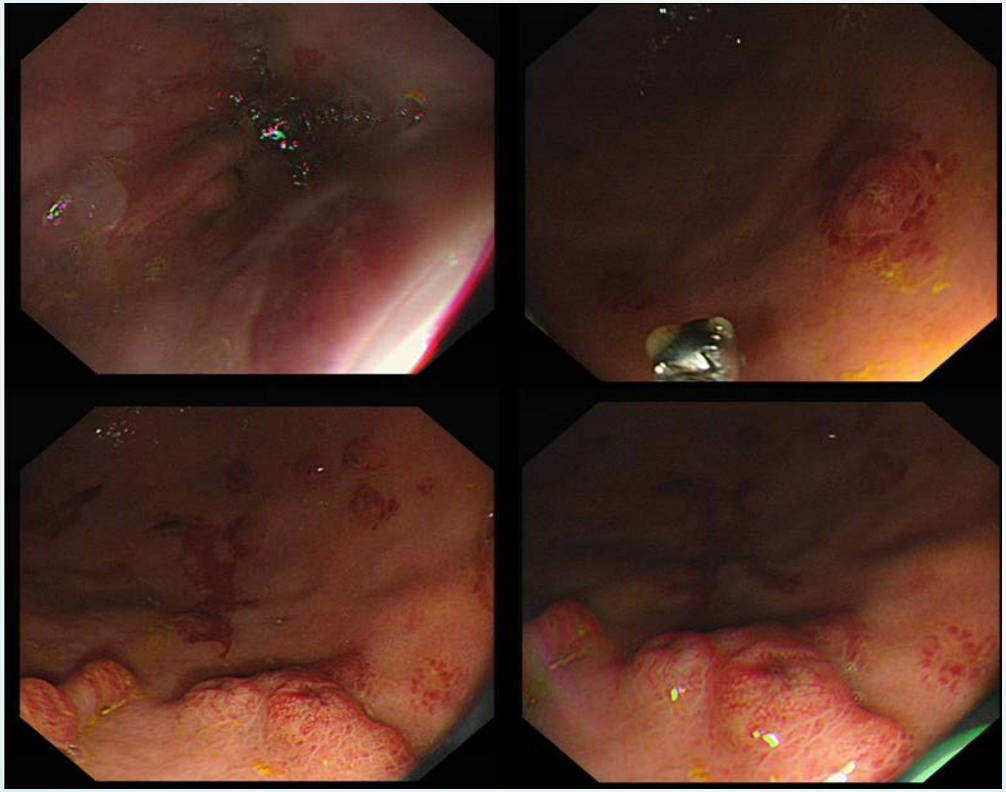
Extra slides

Horner's syndrome



Horner's syndrome

- Interruption of sympathetic:
  - Inactivates the iris dilator muscle causing miosis
  - Inactivates the superior tarsal muscle causing ptosis
  - Reduces sweat secretion in the face



Gastric specialised and non-specialised mucosa showing spindle cells with slit-like spaces containing erythrocytes in the lamina propria.
Occasional hyaline globules are seen and areas of haemosiderin deposition are noted.
There is an associated eosinophilic infiltrate.
These features are consistent with Kaposi Sarcoma.
Confirmatory immunostains for HHV-8 and CD34 were positive.