MYCOBACTERIUM BOVIS ARACHNOIDITIS

C. Ó Maoldomhnaigh¹, R. Kernan¹, L. Baker², D. Crimmins³,
E. Moylett⁴, K. Butler¹, P. Gavin¹.

¹Children's University Hospital- Temple Street, Paediatric Infectious Diseases, ²Paediatrics, and ³Neurosurgery Departments, Dublin, and ⁴Galway University Hospital, Department of Paediatrics, Galway, Ireland.

Background

- Tuberculous meningitis is rare in areas of low TB incidence.
- Diagnosis is challenging due to non-specific presenting symptoms, difficulty in culturing the organism and low yield of CSF PCR.

Case presentation

- An 11-year old, HIV-negative, caucasian Irish girl presented with 2-weeks of intermittent fever, worsening headaches and vomiting.
- She was previously well, without history of travel, known TB contacts, exposure to farm animals or unpasteurised dairy products.
- Admission bloods and CT brain were normal. LP parameters are shown in the table.
- CSF Gram and AFB stains, culture and multiplex bacterial PCR were negative.
- Empiric ceftriaxone and aciclovir were started. An EVD was inserted for worsening encephalopathy and increased ventricular dilatation on repeat CT brain.
- CSF AFB stain, Filmarray, and MTB complex PCR were again negative.

	WCC /cmm (lymphocyte %)	RCC /cmm	Protein mg/L	Glucose mmol/L
Lumbar puncture D3	443 (77%)	143	>2500	1.7
CSF from EVD D5	62 (89%)	31	330	3.1

- The discrepancy in lumbar and ventricular CSF parameters prompted MRI brain and spine (Figure) with contrast.
- This showed extensive enhancement of spinal cord subarachnoid space and brainstem and basal cistern pial surfaces.
- She underwent lumbosacral laminectomy and nerve root biopsy for suspected malignancy.
- Histology was negative for malignancy but showed granulomas and a single AFB stain positive organism.

Figure: MRI Spine pre and post gadolinium contrast showing extensive subarachnoid space enhancement.

- Anti-mycobacterial chemotherapy and high dose dexamethasone were commenced for presumed MTB infection, confirmed on positive MTB complex PCR and subsequent culture identification as *Mycobacterium bovis*.
- She is now well 6 months into treatment.

Learning Points/Discussion

- This case underlines the difficulties inherent in diagnosis of tuberculous meningitis and particularly arachnoiditis.
- Repeat CSF MTB complex PCR samples were negative with diagnosis ultimately depending on spinal neuroimaging and tissue biopsy.