

From Foot Ulcer to Fatal Epidural Abscess

S Braggins¹, A Sharma¹, T Vakiligilani¹, L Bloomfield¹, J Dunbar¹, A Sangster¹, D Samarasinghe¹, V Bravis^{1,2}

¹Department of Diabetes and Endocrinology, St Marys Hospital, ICHT, London

²Division of Diabetes, Endocrinology and Metabolism, Imperial College London



Imperial College Healthcare
NHS Trust

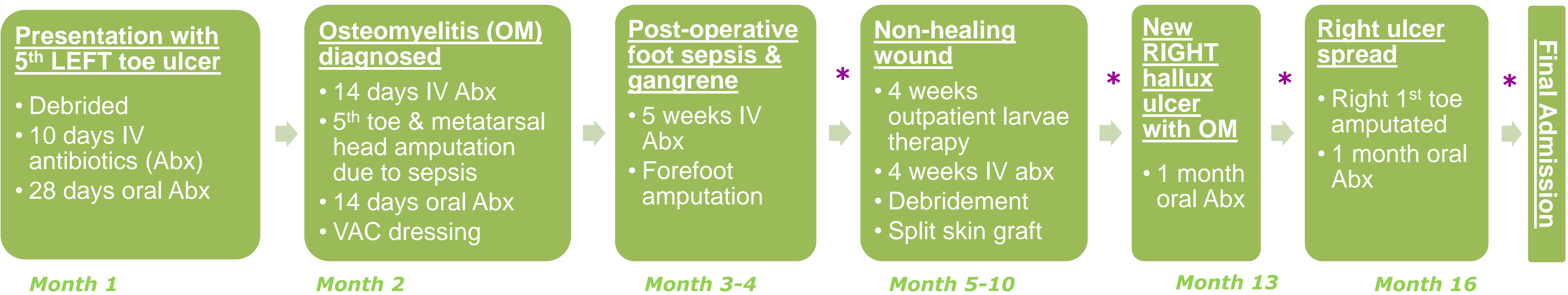
INTRODUCTION

- Approximately 10% of patients with diabetes will develop a foot ulcer in their lifetime.¹
- Spondylodiscitis (incorporating vertebral osteomyelitis, spondylitis and discitis) is a rare condition and diabetes is the most common predisposing risk factor.²
- Spinal infection occurs most commonly through haematological spread² from distant infection sites, such as diabetic foot ulcers.

PRESENTING COMPLAINT

A 57-year old woman with poorly controlled **type 2 diabetes** (HbA1c 148mmol/mol) presented with **sepsis** and **lower back pain**, in the absence of trauma. She denied a headache or any respiratory, urinary and gastrointestinal symptoms. Examination demonstrated lumbar vertebral tenderness, **bilateral lower limb weakness** and **absent reflexes**. She also had a right hallux **apical necrotic ulcer**.

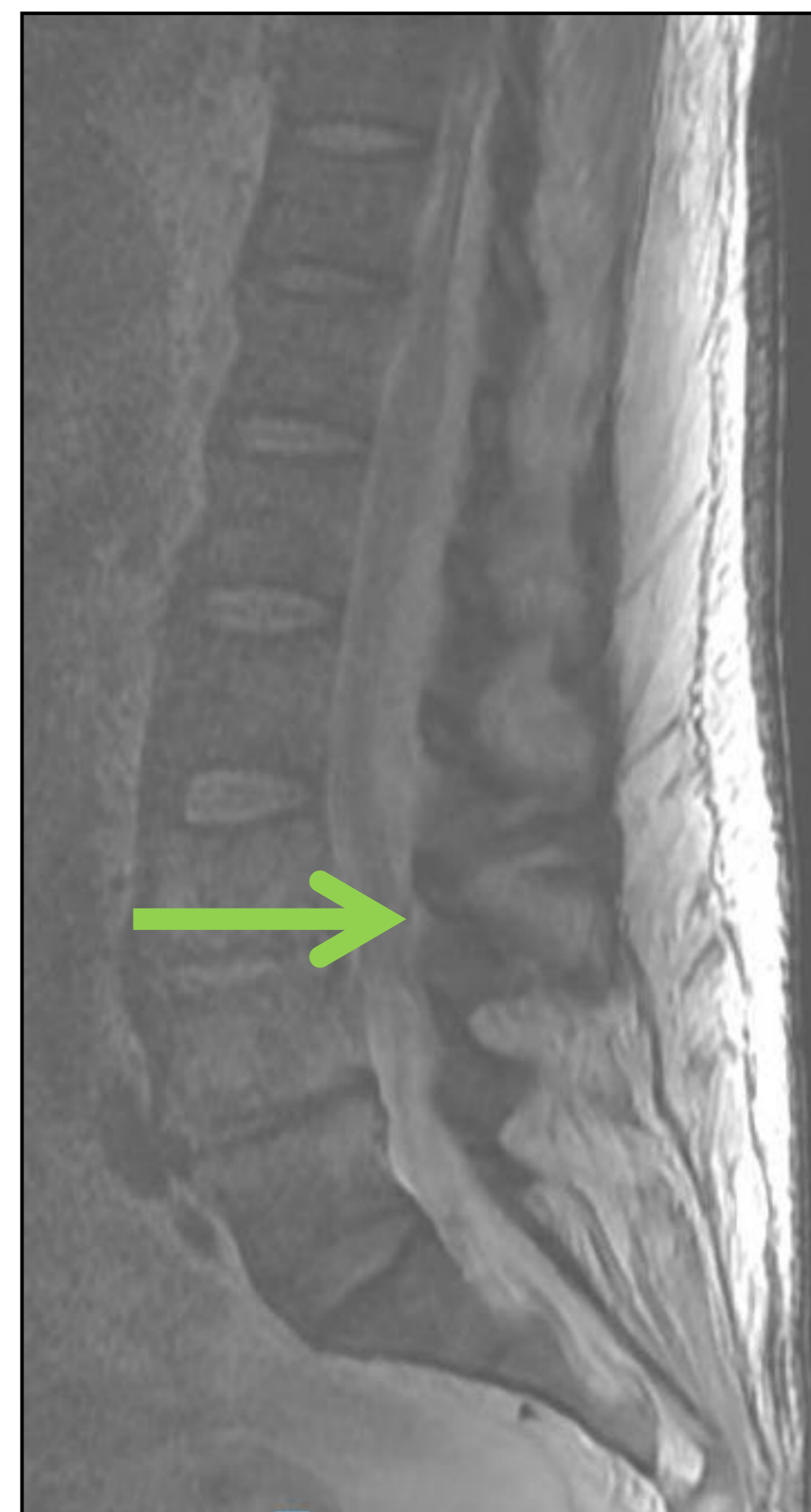
PATIENT BACKGROUND



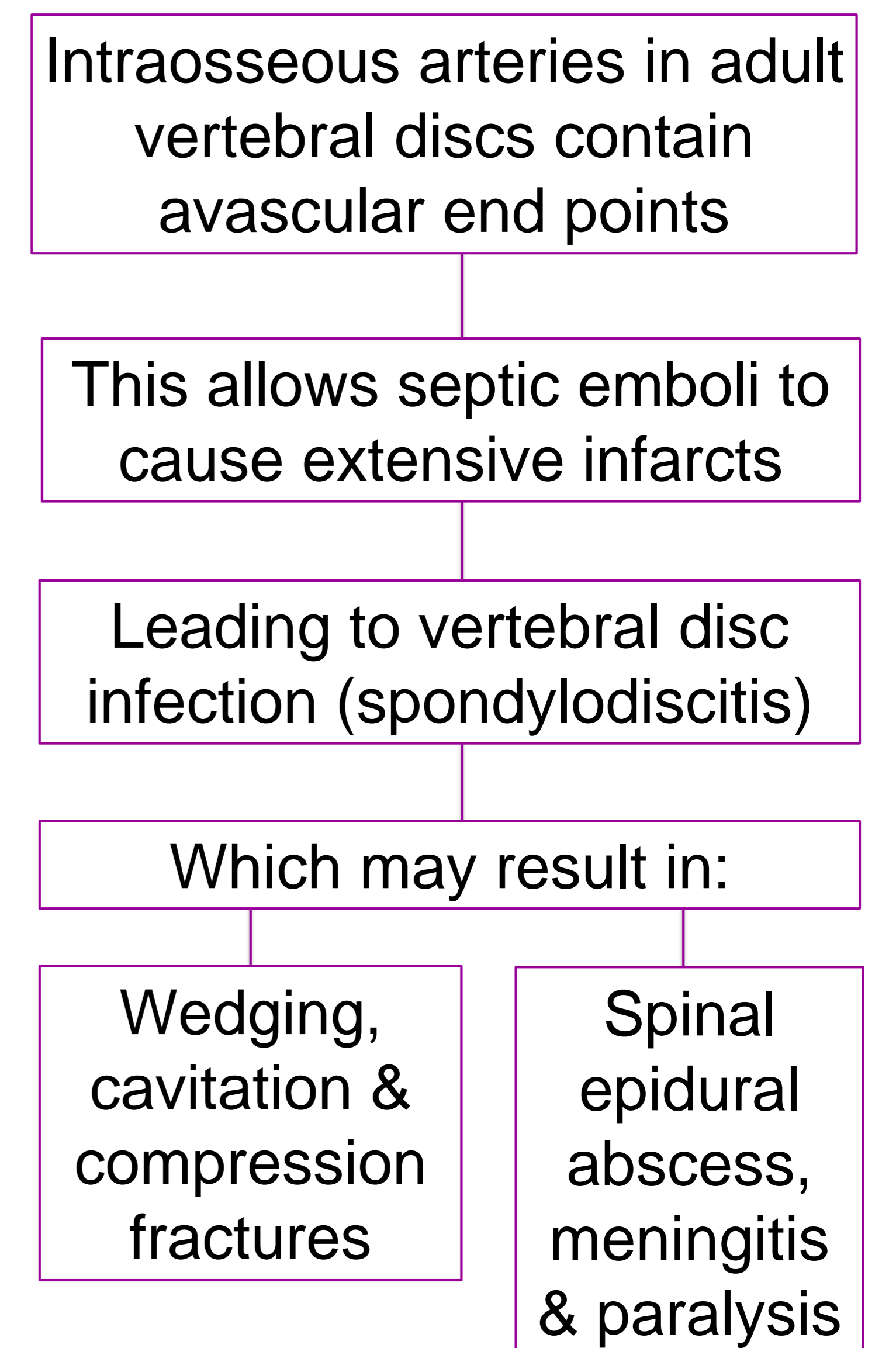
PATIENT PROGRESS

- She was admitted to the High Dependency Unit and treated with **intravenous antibiotics** and **inotropes**. Beta-haemolytic streptococcus group B grew from blood cultures; whilst urinalysis, CTKUB and Chest X-ray ruled out other sources of infection.
- An MRI spine revealed L3/4 and L4/5 **discitis** with a **posterior epidural collection** with **canal compression** extending from T12-L4.
- MDT discussion deemed that neurosurgical intervention carried a high mortality risk and she was therefore managed conservatively with **prolonged IV antibiotics** (ciprofloxacin & gentamicin → meropenem → ceftriaxone).
- Over the next **nine weeks** of her inpatient care, inflammatory markers improved but she remained bed bound with persistent lower limb neurology.
- In her final week she exhibited further signs of **overwhelming sepsis** and passed away.
- Her cause of death was recorded as 1a) Septicaemia 1b) Epidural abscess 1c) Diabetic foot ulcer.

MRI SPINE



PATHOGENESIS OF HAEMATOLOGICAL SPREAD²



DISCUSSION

- The most commonly implicated organism in spondylodiscitis is staphylococcus aureus, with streptococci causing 5-20% of cases.² In this case the most likely source of spinal infection was from the chronically infected diabetes foot ulcer, supported by blood culture findings and lack of alternative infection source.
- Spondylodiscitis often presents with no other symptom other than back pain.² Neurological or infective symptoms can be present or absent.² Consequently, high clinical suspicion in clinicians is imperative in ensuring timely diagnosis and early intervention to minimize devastating consequences.
- The interval between the patient's initial contact with the diabetes foot service and development of signs of spondylodiscitis was 17 months. During this time she had defaulted from the diabetes foot service and her antibiotic concordance was difficult to assess. This raises the question of how best to encourage concordance with outpatient management, and whether earlier inpatient management in poorly concordant patient would reduce morbidity and mortality in diabetic foot disease.

REFERENCES

- 1) National Institute of Clinical Excellence (2015) Diabetic foot problems: prevention and management. NICE guideline (NG19).
- 2) T Gouliouris, S Aliyu, N Brown. Spondylodiscitis: update on diagnosis and management. Journal of Antimicrobial Chemotherapy 2010; 65 (3): pp iii11-iii24.