LL weakness and numbness
History

- 56/Chinese/male
- B/G: DM (HbA1c 9.5%), HIV (poor-compliance, CD4 22, VL 97213 copies)
- Smoker >40 pack years, non-drinker

- C/O:
  1. Thigh and buttock pain, R>L at 12mn
     “Muscle tearing” pain
     No radiation to LL
     A/w numbness and weakness in the next hour
     Unable to walk thereafter
- No trauma
- No back pain
- No incontinence
- Constipated 1/52
- No headache/giddiness
- No chest pain
- No SOB
- No blurring of vision
- No abdo pain
- No rash
- No oral ulcers
O/E

- T 36.1, BP 168/82, PR 82, SpO2 95% on RA
- Alert
- Heart S1S2, no murmurs
- Lungs clear
- Abdomen soft, non-tender, BS +
- PR: brown stain, anal tone intact
- CN intact
- UL power 5/5, normal
- LL:

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- Sensory loss over S1 on left LL
- Sensory loss over L1-S1 on right LL
- Reflexes absent over both knees and ankles
- Plantars downgoing bilaterally

- Bilateral DP palpable

- No spinal deformities
Investigations

- TW 11.0, Hb 16.8, Plts 145
- Na 136, K 4.3, Cr 66, urea 3.9
- Ca(a) 2.4, PO4 1.4, Mg 0.8, Alb 37
- CK 108
- CXR: bilateral peribronchial thickening
Differentials?
Impression

- Physical compression?
  - PID/abscess/tumour

- Vascular

- Infective – viral (CMV, HIV etc), bacterial (syphilis, mycobacterium)

- DM

- HIV
MRI lumbar spine

- The vertebral bodies show a reduced T1w marrow signal with no abnormal enhancement or hyperintense focus on IR images probably due to hemopoietic marrow. No suspicious marrow lesion noted.

Disc desiccation with mild diffuse disc bulge and posterior annular tear is noted at L5/S1; causing no significant spinal canal or exit foramina narrowing.

No significant disc herniation or central canal stenosis is seen. No abnormal enhancing focus or mass is noted. The conus medullaris and cauda equina are unremarkable.
Neuro consult on 18/5

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- Pinprick normal to trunk, right LL : reduced L3 onwards, left LL: normal except dorsum of foot slightly reduced
- Reduced vibration bilaterally right>left
- Superficial abd reflexes present on upper abdomen, reduced on lower abdomen
? GBS ? Mononeuritis multiplex

- Proceeded with MRI brain and LP
- MRI brain: NAD. Right sphenoid sinusitis.
- LP 19/5: RBC <1, nucleated cells 3, occasional lymphocytes seen. Protein 0.84, glucose 7.9 (serum 13.7)
- RPR negative, Syphilis IgG 2, ESR 14, CRP 3.9
- Flow cytometry: negative
- Cyto: no malignancy
- CMV/HSV/EBV/cryptococcal ag negative, tetraplex negative, HTLV I/II ab. negative
• NCS/EMG 22/5/14: studies suggest an acute inflammatory process like CIDP or vasculitis but at the same time need to rule out a lumbosacral plexopathy. Suggested an emergent lumbosacral MRI w contrast to rule our compressive lesion
• MRI Spine (repeat 22/5):

There is mild disc desiccation and mild diffuse disc bulge seen at L5/S1 level. No spinal or foraminal stenosis is seen. No nerve root impingement is detected. Also noted is the small posterior annular tear at L5/S1.

No significant disc herniation or central canal stenosis is seen.

The conus medullaris and cauda equina are unremarkable. The spinal cord ends at the level of L1/2. No abnormal enhancement is detected.
• Coincidently noted ESM on LLSE and in view of CT thorax finding of ?splenic infarcts, referred to CVM for 2D Echo.
On 23/5/2014…

- Patient c/o a different type of pain over right LL
- Noted to have cold LL (R>L), pulses not palpable up to femoral
- Urgent Vascular consult:
  Doppler US absent up to right femoral, weak popliteal on left.
- No mottling/fixed staining
- No tissue loss
CT aortogram

• Intraluminal thrombus causing occlusion of the distal portion of the infrarenal abdominal aorta, the aortic bifurcation, the right and left common iliac arteries, and the right external iliac artery. Partial thrombus is seen along the length of the left external iliac artery, causing near complete occlusion.
• Patient underwent urgent embolectomy.
• Findings:
  Common femoral artery soft with minimal flow
  Large amount of thrombus within iliac vessels and aorta with visible white embolus seen
At end of procedure,
• Left leg - Good DP and PT pulses on doppler and clinically, no mottling
• Right leg - No DP or PT pulses on doppler or clinically, no mottling
Post-operatively…

• Started on heparin infusion
• Improving – palpable right DP on POD 3
Aortic occlusion

- Complete aortic occlusion is rare
- Acute episode: mortality 31-52%
- Saddle embolus: occlusion of infrarenal aorta
- 75-80% occur in the setting of underlying severe aorto-iliac artherosclerotic occlusive disease.
- In the rest: a hypercoagulable state
- Main manifestations: uncontrolled HTN and claudication
- In cases of severe chronic aorto-iliac artherosclerotic occlusive disease, an extended collateral circulation develops – delayed acute ischemic manifestations

• Not all patients present with symptoms of severe ischemia
• 6 out of 19 were diagnosed with symptoms other than LL extremity ischemia – thought to have spinal cord compression

Singh D, Pinjala R, Divakar B. Acute Aortic Occlusion: Time to Awake, Be Aware and Act. The Infernet Journal of Surgery. 2006 Volume 9 Number 1
Case report

- 79/female
- Sudden onset, acute, severe, lower back pain radiating down back of both legs
- Unable to walk, altered sensation in legs
- Shortly, urinary incontinent
- B/G IHD, HTN, DM, obese
• Altered sensation of both LL from L3-S1
• Bilateral weakness of ankle plantar/dorsiflexion
• Cannot do SLR actively or passively due to pain
• No saddle paresthesia
• Anal tone intact
• MRI: disc protrusions multiple levels, but no spinal cord, cauda equina or nerve root compression
• Started on analgesia with marked improvement, mobilising with frame and power normalised
• 7 days after admission, noted pain and discoloration of toes
• CRT <2s, but pulses absent
• Angiogram: saddle embolism at bifurcation of aorta with complete occlusion of both common iliac arteries with stenosis of the distal aorta. Common femoral arteries patent but poor flow. Popliteal arteries normal

• 2DE: large ventricular mural thrombus

• Cauda equina supplied by lower lumbar, iliolumbar and lateral sacral arteries
• Greater radicular artery very rarely arises at the level of L3 (1.4%) or L4-L5 (0.2%) and this low origin may be the reason for paralysis or cauda equina like symptoms
• Thus, a patient with reduced blood flow in these 3 main arteries may have transient ischemia to the cauda equina, mimicking compression

50% of cases have no peripheral vascular symptoms or delayed symptoms

Revascularization Syndrome

- Local cx: explosive swelling of the limb, compartment syndrome, rhabdomyolysis
- General cx: acidosis, MOD
- Related to interval between ischemia and revascularization and muscle mass