

## Lumbosacral Plexopathy Secondary to Internal Iliac Artery Aneurysm: Case report and review of literature

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### Introduction

Iliac artery aneurysms are usually asymptomatic and can manifest symptoms only when there is compression, erosion, or trauma present. Compression most commonly occurs in three areas: ureters, colon, and lumbosacral plexus [1]. In patients with a documented iliac artery aneurysm, approximately 10-15% present with neurological symptoms [2]. There are currently limited reports on the manifestations of iliac artery aneurysms. Previous reports have described buttock pain, mono-paresis, cramps, pain, and weakness of dorsiflexion [3, 4, 5, 6, 7].

We report an internal iliac artery aneurysm causing lumbosacral plexopathy that developed posthernia repair surgery presenting with right lower limb weakness and numbness.

### Case Report

An 83-year-old male was admitted for an incarcerated left inguinal hernia repaired surgically. The patient's past

medical history is complicated with a history of coronary artery disease, status post coronary artery bypass surgery, atrial fibrillation on coumadin, mitral valve prolapse, status post mitral valve replacement, hypertension, and hyperlipidemia. Three days post-operation, the patient noticed he had weakness in his right lower limb. The weakness was gradual in onset and progressed with associated numbness and tingling in the right lower limb. The patient noticed more weakness proximally and had difficulty lifting his right lower limb off the bed. The patient had an additional complaint of urinary retention. On exam, he displayed hyporeflexia with reflexes being 1/4 except for the right knee and right ankle, which were 0/4. The plantar responses were mute bilaterally. Motor examination showed an MRC strength grade of 3/5 with knee flexion and extension, 3/5 with hip flexion, 4/5 with ankle dorsiflexion and plantarflexion, 4/5 distally in the right lower limb, and 5/5 in the left lower limb.

The sensory exam showed reduced sensation to temperature and light touch on the right lower limb compared to the left lower limb. Multiple imaging studies were performed. MRI of the cervical and thoracic spine with and without contrast and diffusion-weighted imaging showed chronic degenerative changes, but no spinal cord infarctions were present. MRI of the brain with and without contrast showed chronic microvascular changes and generalized cortical atrophy. MRI of pelvis without contrast showed a right internal iliac artery aneurysm measuring 10.6 cm in craniocaudal dimension and 6.5 x 6 cm in transverse dimension (Images 1A & 1B) exerting mass effect on the right lumbosacral trunk L3, L4, L5, and S1 nerve roots (Images 2A & 2B, arrows).

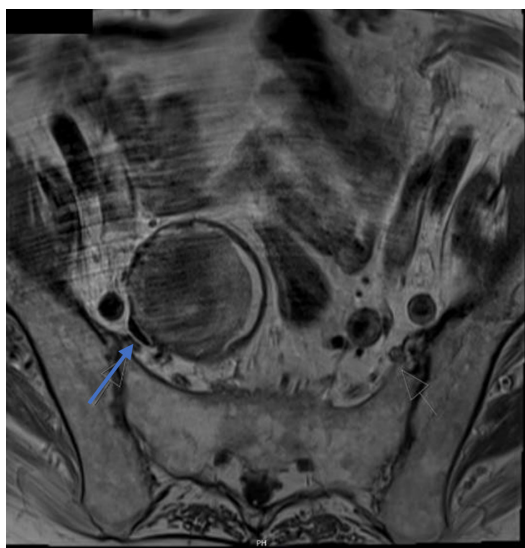


Figure 1A: T1 Axial MRI Pelvis without contrast. MRI of pelvis without contrast showed right internal iliac artery aneurysm measuring 10.6 cm craniocaudal dimension and 6.5 x 6 cm transverse dimension (arrow).

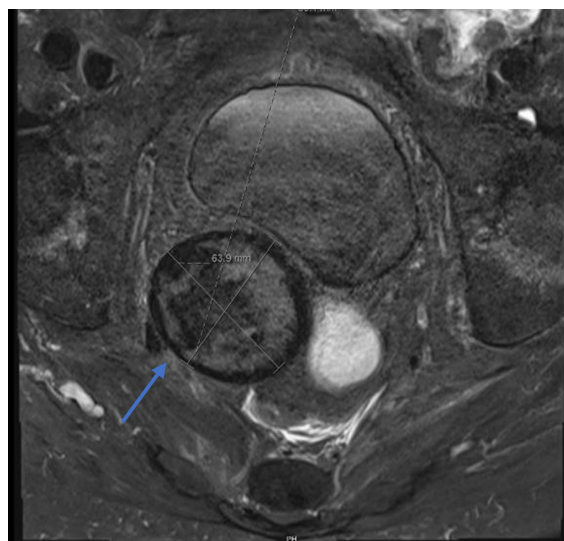


Figure 1B: T1 Axial STIR. MRI of pelvis without contrast showed right internal iliac artery aneurysm measuring 10.6 cm craniocaudal dimension and 6.5 x 6 cm transverse dimension (arrow).

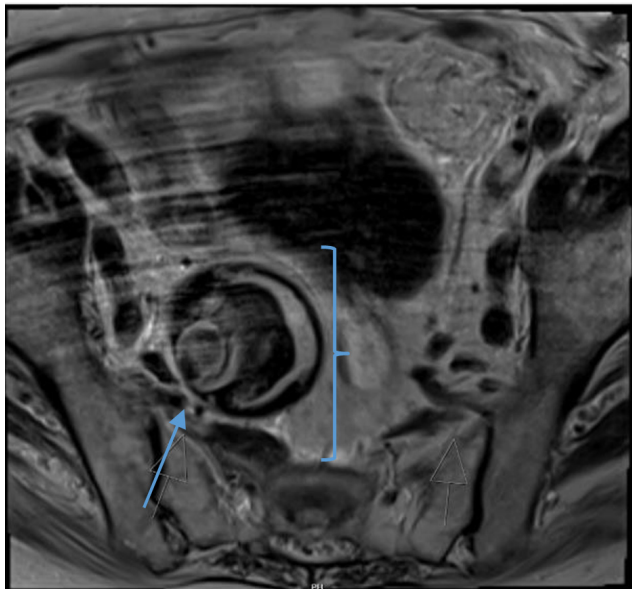


Figure 2A: MRI Pelvis T2 Axial. Image showed aneurysm (arrow) exerting mass effect (bracket) on the right lumbosacral trunk L3, L4, L5, and S1 nerve.

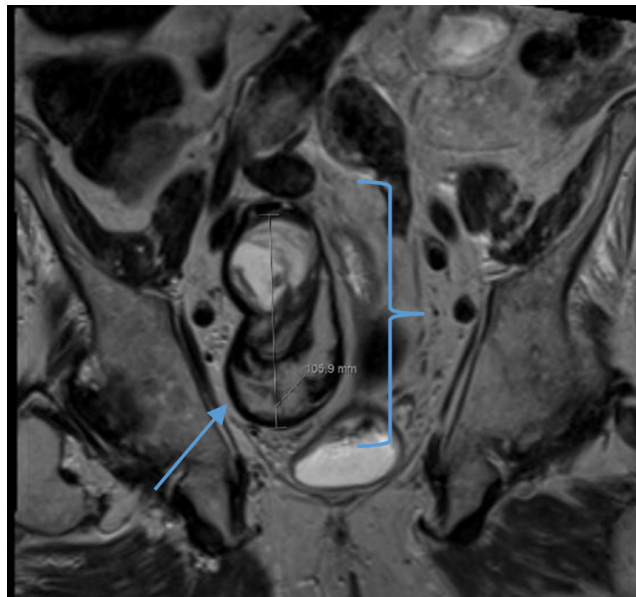


Figure 2B: MRI Pelvis T2 Coronal. Image showed aneurysm (arrow) exerting mass effect (bracket) on the right lumbosacral trunk L3, L4, L5, and S1 nerve.

## Discussion

Iliac artery aneurysms are seen predominately in white men over the age of 60 with a history of smoking, hypertension, and atherosclerotic disease [1, 9], as seen in the patient presented above.

Our patient presented with lower limb weakness and numbness, which started three days post-operatively, thus excluding traction injury. In addition, while the patient had numbness, there were no significant pain issues that ruled out any ischemic processes. The weakness affected multiple myotomes and dermatomes, thus raising the possibility of lumbosacral plexopathy.

Previously reported cases showed different presentations with iliac artery aneurysms. Mohan et al. reported a patient presenting with the inability to bear weight on the right leg, radiating pain to the right buttock, loss of ankle reflex, and a right foot drop [3]. Feinberg et al. reported a patient with only pain, cramps, and weakness in the left lower extremity [4]. Iodice et al. reported a patient presenting with progressive numbness and weakened foot dorsiflexion [5, 6, 7]. The average size of an iliac artery aneurysm in men is 1.2 +/- 0.2cm and in women is 1.0 +/- 0.2cm[8]. When aneurysms become 5cm – 7cm large, the risk of rupture is very high, and mortality is increased. Our patient had an aneurysm greater than 7cm and had not ruptured. No symptoms of an aneurysm appeared until post-operative, and we suspect this is coincidental.

Our case is unique in that our patient had more proximal weakness than distal weakness compared to previously reported cases. While urinary retention raised concern for

cauda equina syndrome, a lumbar spine MRI ruled it out. We suspect urinary retention was due to compression of the bladder by the iliac artery aneurysm.

Patients with unexplained lower extremity weakness, numbness, and iliac artery aneurysm compressing the lumbosacral plexus should be considered. Further imaging of the pelvis should look for compressive etiologies of the plexus.

## References

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