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Case Report **OPEN ACCESS**

Thoracic spinal cord compression and aortic thrombosis; an unusual presentation of seminoma

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INTRODUCTION

Testicular cancers are particularly treatable neoplasms, with five-year survival over 95%.[1] An increasing proportion of testicular tumours are seminomas, at the expense of non-seminomas, and the age at time of presentation is also increasing.[2] Seminomas are particularly likely to present with localised disease, approximately 80% present with disease limited to the testicle, and less than 5% spread beyond the retroperitoneal nodes at presentation.[1]

Current literature shows that while cases of spinal cord compression (SCC) are reported due to relapse of seminoma or burned-out seminoma, there are very few cases of SCC as a primary presentation of seminoma.

CASE REPORT

We present the unique case of a patient whose first presentation of seminoma comprised thoracic SCC and synchronous occlusion of the distal aorta.

This case is a 59-year-old male with a history of osteoarthritis, hip replacements and smoking, who attended the Emergency Department (ED) with a two-day history of bilateral leg weakness and abnormal gait. He had a background of back pain worsening over six weeks that he attributed to working on his swimming pool, and a concurrent history of 9kg weight loss.

In ED, he was unable to walk unaided. Lower limb sensation was normal, but he had increased tone, 4/5 power (Medical Research Council scale) through both lower limbs and brisk reflexes with upgoing plantar reflexes. Pedal pulses were faintly palpable bilaterally.

Lumbar spine X-ray in the community had shown moderate discopathy and CT of the brain and lumbar spine in ED showed no further pathology to explain his symptoms.

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On day two of admission, this gentleman underwent CT chest, abdomen and pelvis that showed an occlusive thrombus in the distal aorta with collateral filling of the femoral vessels. There was no evidence of lymphadenopathy, metastatic deposits, or abnormality in the spine. The testes were not visualised.

The patient was heparinised and transferred to the local vascular centre for urgent aorto-bi-femoral grafting. On repatriation to his local hospital his lower thoracic pain persisted, and his neurology deteriorated further. MRI spine showed posterior epidural space soft tissue lesion extending into adjacent paraspinous musculature (T8 & T10), associated with SCC.

He was transferred to the spinal service and underwent decompression of his T8-T10 spinal cord. Histology from deposits compressing the spine showed a pure seminoma. Ultrasound of the testes revealed a mass in the right testis.

Post-laminectomy and fusion this patient recovered significant neurologic function over the following days, moving from an ASIA (American Spinal Injury Association) A to D classification. Orchidectomy was performed, with histology matching the spinal metastases,

and Etoposide and Cisplatin were commenced with curative intent.

Current literature on seminoma and spinal cord compression

A literature review for metastatic seminoma causing spinal cord compression revealed a paucity of cases, particularly regarding SCC at time of initial presentation. Ng *et al*. present a case of acute thoracic spinal cord compression from relapse of seminoma. They comment that when seminomas metastasise to the spine, they mostly metastasise to the lumbar spine, and predominantly cause pain rather than symptoms of SCC.[3] The proposed route of spread to the vertebral body is via the venous plexus, with subsequent infiltration into the spinal canal.[4]

Cases of synchronous aortic thrombosis and germ-cell tumours are similarly rare. Where cases have been described, they have been attributed to cisplatin-based therapy and not as part of the initial presentation.[5] The link between malignancy and a pro-thrombotic state is well established, however malignancy associated with aortic thrombosis is rare,[6] with thrombosis mostly occurring in the venous circulation. Of note peripheral arterial thrombosis associated with malignancy has been described as 'an agonal event' with median survival reported as 2.5 months.[7]

DISCUSSION

This is a unique case of symptomatic metastatic thoracic cord compression with synchronous aortic thrombosis as an initial manifestation of seminoma.

Clinical examination revealed lower limb hyper-reflexia, weakness and ataxia. Although some of this could be accounted for by the aortic thrombus, this alone could not explain all of the findings. They were however consistent with severe spinal cord compression later shown on MRI of the spine.

This case demonstrates the importance of physical examination of the testes in cases of SCC of unknown primary, in addition to the need for MRI of the spine when neurological deficit cannot be completely explained by existing findings.

Furthermore, this case emphasises the highly treatable nature of seminoma despite multi-system sequalae, and the potential for significant benefit with aggressive investigation and management.

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Conflict of Interest

The authors have no conflicts of interest to declare for this case report.

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