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CASE REPORT

A rare case of cord compression secondary to extramedullary haematopoiesis from a radiological perspective.

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ABSTRACT… Objective: Extramedullary haematopoiesis is commonly encountered occurrence which can rarely cause acute spinal cord compression secondary to intraspinal extension. We present case of a young gentleman who presented with acute paralysis due to this condition.

Key words: Spinal Cord Compression, Magnetic Resonance Imaging, Epidural Space, Epidural Neoplasms, Thalassemia.

INTRODUCTION

Extramedullary haematopoiesis is frequently seen in cases of haemoglobinopathies and results in various common as well as rare complications. We present a rare complication of thoracic cord compression secondary to intraspinal extension of extramedullary haematopoiesis.[1,2] Awareness of this rare complication with debilitating results is necessary for prompt patient management.

CASE PRESENTATION

A 25 years old male patient, known case of thalassemia major since childhood with regular history of blood transfusions presented with sudden onset bilateral lower limb paralysis. On examination, there was complete loss of power in bilateral lower limbs (0/5) and depressed deep tendon reflexes. Sensory level was also noted at T6 level. There was both bowel and bladder incontinence with decreased anal tone. He was referred for magnetic resonance imaging (MRI) of thoracic spine.

MRI examination revealed lobulated, soft tissue masses in bilateral paravertebral locations as well as in the anterior and posterior mediastinum. (Figures-1, 2). These masses showed homogenous architecture with sharply defined margins. These masses returned isointense signal on T1- and hyperintense signal on T2-weighted images with homogenous post-contrast enhancement. The maximal craniocaudal dimension of these masses measured 18.0 cm and the maximal width measured 5.0 cm. There was extension of these soft tissue masses via neural foramina into the posterior aspect of spinal canal from T4-T9 levels bilaterally, resulting in severe compression over the thoracic spinal cord (Figure-3). The maximal width of intraspinal component measured 1.0 cm. There was bilateral radicular compression due to encroachment of neural foramina at multiple levels as well. Overall, appearances were found to be consistent with extramedullary haematopoiesis. Critical reporting and referral was done. The patient was administered intravenous dexamethasone, oral preparation of Hydroxyurea and received multiple sessions of low-dose radiation therapy to the spine (1600cGY in divided fractions). Mild improvement in power (1/5) was noted along with prevention of further neurological deterioration.

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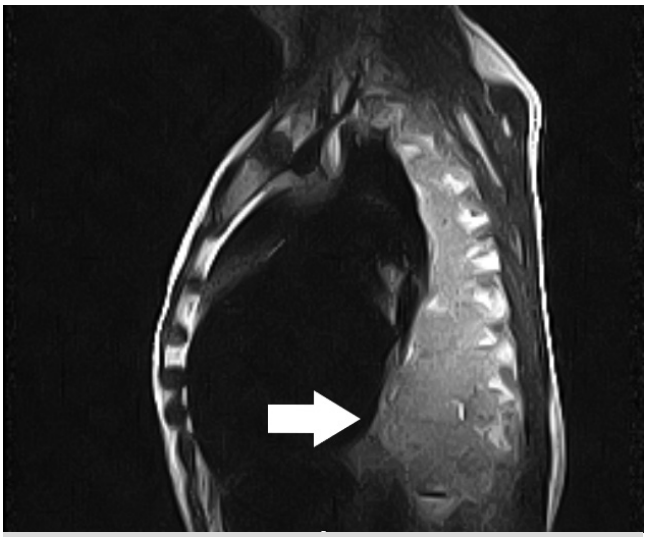

Figure-1. Lobulated paravertebral soft tissue masses (Arrow).

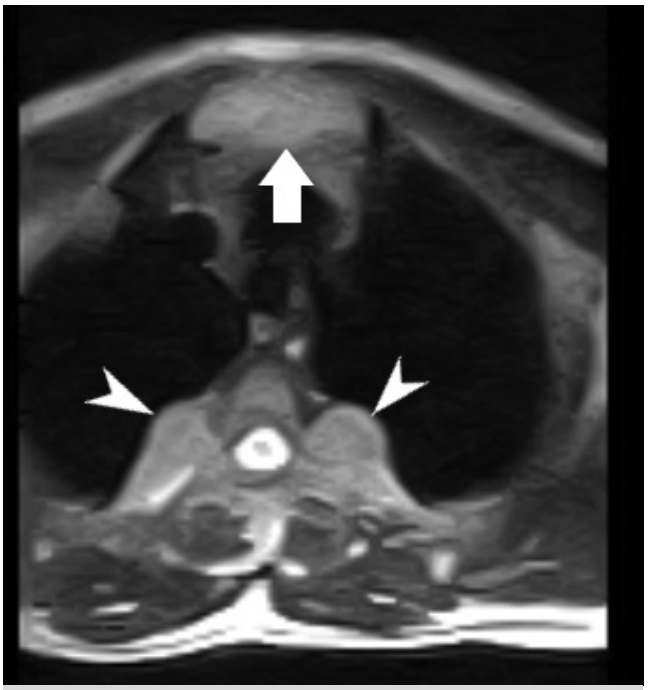

Figure-2. Soft tissue masses representing extramedullary haematopoiesis in anterior mediastinum (bold arrow) and posterior mediastinum (arrow heads).

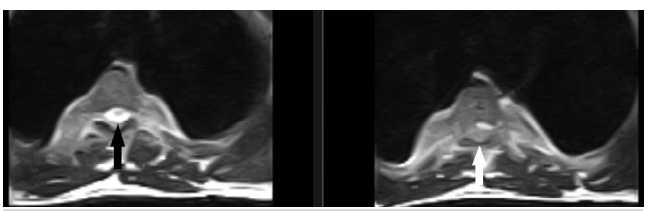

Figure-3. Normal thoracic spinal cord (black arrow) & cord compression by intraspinal extension of soft tissue mass (white arrow).

DISCUSSION

Spinal cord compression secondary to extramedullary haematopoiesis is a rarely reported entity encountered in severe hematological disorders. Two main forms of extramedullary haematopoiesis include "para-osseous" and "extra-osseous"; the former being more frequent in haemoglobinopathies as was also seen in our case.[1-3]

Cross sectional imaging modalities including computed tomography (CT) and magnetic resonance imaging (MRI) can detect presence of both forms of extramedullary haematopoiesis. CT demonstrates extramedullary haematopoiesis as a soft-tissue mass that is often adjacent to the involved bone. MRI is the modality of choice for assessment if intraspinal extension is suspected. Due to its high soft tissue resolution, it best shows extension into epidural space as well as clearly demonstrates cord compression. Most close mimicker of these imaging appearances on MRI is metastatic disease which is to be considered first in cases with known history of malignancy.[2-5]

CONCLUSION

Extramedullary haematopoiesis can rarely complicate to cause spinal cord compression. Awareness among physicians and radiologists is vital to ensure prompt diagnosis and management of this potentially devastating complication.

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AUTHORSHIP AND CONTRIBUTION DECLARATION

No.	Author(s) Full Name	Contribution to the paper	Author(s) Signature
1	Tauseef Aman	Write up, Review.	
2	Amna Ejaz	Write up, Regiew of literature.	
3	Saad Siddiqui	Initial diagnosis & idea, final review.	