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Dorsolumbar Scoliosis, A Rare Presentation of Multiple Sclerosis

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Abstract **Case Report**

Study's goal: As there is currently no consensus, this case study illustrates our department's experience in managing a case of dorsolumbar scoliosis following multiple sclerosis. ***Case Report:*** Here, we present a case with dorsolumbar scoliosis manifested by asymmetry of the shoulders, as well as imbalance of the pelvis with gibbosity on clinical examination. The full spine X-ray, front and side, showed a dorsolumbar scoliosis with a cobb angle of 29°.Cerebral and spinal cord MRI in flair, T2, diffusion sequences without and with Gadovist injection revealed inflammatory cerebral demyelinating lesions above the tentorial region.

Keywords: Gibbosity, Scoliosis, Deformation, Posture, Multiple Sclerosis, Imbalancr, Demyelinating, Brain, Spinal Cord, Rehabilitation.

INTRODUCTION

Multiple sclerosis (MS)is a chronic autoimmune demyelinating disease of the central nervous system. It can present with various neurological symptoms including motor, sensory, and balance desturbances, Musculoskeletal complications are uncommon and rarely the initial manifetation. Among these, scoliosis is extremely rare, particularly in adults with no previous orthopedic history.

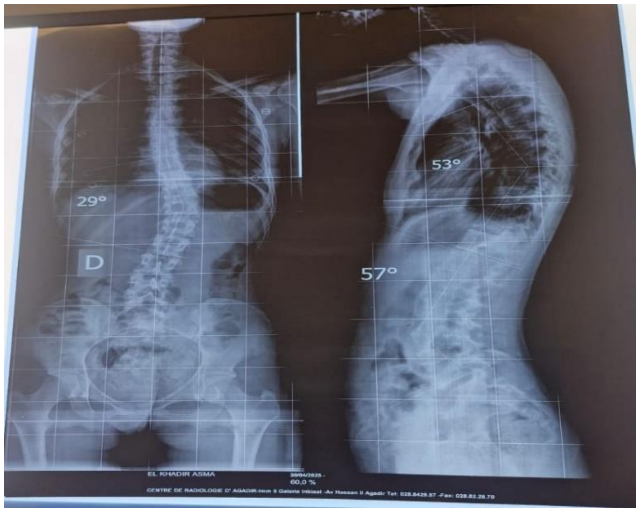
We present a rare of dorsolumbar scoliosis as an unsual presentation revealing multiple sclerosis, highlighting diagnostic challenges and therapeutic considerations.

CASE REPORT

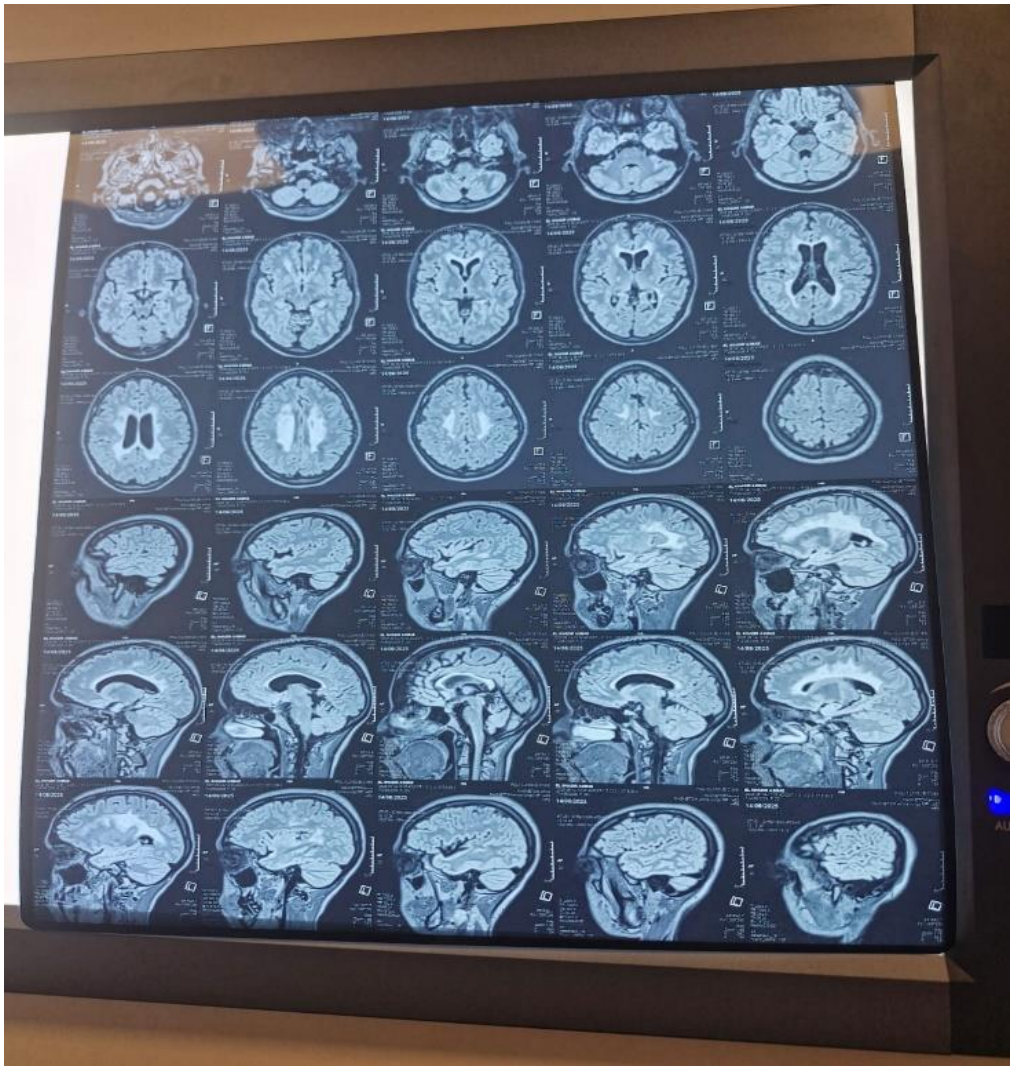
A 20-year-old woman, right' handed, with no notable past medical or family history, consulted for progressive spinal deformation associated with fatique and episodes of imbalance. She reported no prior trauma or orthopedic abnormalities in childhood.

On physical examination, these was: Asymetry of the shoulders, lateral trank deviation, pelvic imbalane with a right-sided gibbosity, and no neurological deficit initially noticed.

Standard radiographs (AP and lateral views) of the spine revealed a dorsolumbar scoliosis with a Cobb angle of 29°, convex to the left.



MRI of the brain and spinal cord performed in flair, T2, and diffusion sequences, with and without gadolinium contrast injection, showed the supratentorial inflammatory cerebral demyelinating lesions as well as periventricular lesions.



The patient was referred to a multidisciplinary team. The therapeutic plan included: Neurological treatment: initation of disease-modifying therapy (interferon beta)

Rehabilitation program: posture correction, proprioceptive training, and muscle strengthening. Othopedic follow-up: no immediate indication for bracing, but regular monitoring was advised.

DISCUSSION

Scoliosis is an uncommon musculoskeletal finding in adults with multiple sclerosis (MS), especially when it appears as an initail manifestation. Typically scoliosis associated with MS arises in the avanced stages of the disease, as a consequence of muscular weakness, spasticity, postural imbalance, or prolonged imobility.

However, in this case, scoliosis was an early and revealing sign, wich makes it a rare and diagnostically challenging presentation.

The patient presented with progressive spinal asymmetry, shoulder imbalance, and a left sided gibbosity, leading to the radiographic identification of a dorsolumbar scoliosis with a Cobb angle of 29°.In the absence of trauma, congenital spinal deformity, or neuromuscular disease, further investigation was warranted, The discovery of supratentorial and periventricular demyeling lesions on MRI, consistent with multiple sclerosis allowed the diagnosis to be made.

The development of scoliosis in this patient is likely secondary to early central nervous system involvement affecting postural control.

Demyelinating lesions, particularly in supraventricular regions, can disrupt motor coordination and trunk stability, even before overt neurological symptoms appear.

There are very few reports in the literature describing scoliosis as an initial manifestation of MS. Most musculoskeletal complications occur later in the disease course. This suggested the need among clinicians when encountering unexplained postural changes in young adults.

This cases hoghlighs the importance od considering neurological causes including demyelinating diseases when evaluating atypical scoliosid in adults.

Brain and spinal imaging should be included in the diagnostic work up when scoliosis is accompanied by subtle signs of imbalance or fatigue.

Once the neurological origin of scoliosis was confirmed, management involved both neurology and rehabilitation teams.

The use of disease modifying therapy (interferon beta) along with physical therapy focused on postural training and core strengthening helped stabilize the condition and improve function.

CONCLUSION

This case highlights an unusual presentation of multiple sclerosis revealed by progressive dorsulumbar scoliosis. Although musculoskeletal complications are rare and usually occur in later stages of the disease, the early onset of scoliosis should raise ckinical suspicion of an underlying neurological disorder. The combination of unexplained postural asymmetry, progressive imbalance, and subtle signs of fatique justifies brain and spinal imaging to exculude demyelinating disease. This report emphasizez the importance of a multidisciplinary approach and the need to consider neurological causes when evaluating atypical scoliosis in young adults.

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