

Clinical-Medical Image

Acute Spinal Cord Infarction: A Case Report

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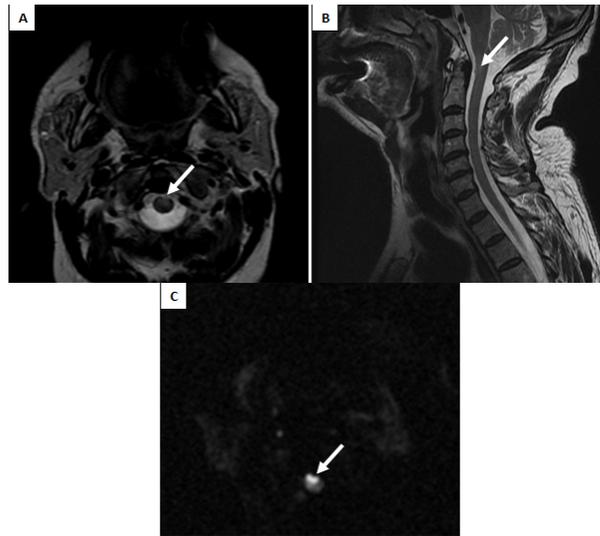


Figure 1: Spinal cord MRI: T2 FLAIR weighted sequences in axial (A) and sagittal (B) sections and diffusion sequence (C) shows Intramedullary signal abnormalities at the cervical level opposite C2 in T2 Flair hyper signal (A, B) with diffusion restriction giving the “Owl’s eye” appearance (C).

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Clinical history

A 62-year-old man without previous pathologic antecedents was admitted to the emergency department for sudden-onset quadriplegia.

Imaging findings

Spinal cord MRI: T2 FLAIR weighted sequences in axial (A) and sagittal (B) sections and diffusion sequence (C) shows Intramedullary signal abnormalities at the cervical level opposite C2 in T2 Flair hyper signal (A, B) with diffusion restriction giving the “Owl’s eye” appearance (C) (Figure 1).

Discussion

Spinal cord ischemia is a rare entity with a poor prognosis [1]; it represents about 6% of all acute myelopathies and about 1 to 2% of all vascular-neurological pathologies [2]; it occurs mainly in patients with a cardiovascular background disease [1].

The onset of symptoms is usually abrupt [3], and the clinical presentation depends mainly on the location and extent of the infarction [1, 3]. Anterior Spinal Artery Syndrome is the most common; it usually presents as a bilateral loss of motor function and pain/temperature sensation, with relative sparing of proprioception and vibratory senses below the level of the lesion [1]. MRI is the crucial modality in case of suspected acute spinal cord ischemia [3]; it presents as a restriction of diffusion imaging of the spinal cord, hyper intense signal in T2 and STIR, and iso intense signal in T1 [1], a variety of characteristic MRI “signs” have been described:

- Pencil-like: Zone of signal abnormality at the site of ischemia in sagittal T2-weighted MRI [2].
- Sagittal T1-weighted imaging may show segmental cord swelling or focally elevated signal thought to represent haemorrhagic transformation [2].
- Owl’s eye sign: Symmetrical T2 hyper signal abnormality of the anterior horn neurons, very suggestive of the anterior spinal syndrome [2].

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- Positive anterior cauda sign: characteristic of thoracolumbar spinal cord ischemia, it translates into an asymmetric enhancement of the anterior nerve roots of the cauda equina [2].

Differential Diagnoses: [2, 3]

- Compressive myelopathy: Extra spinal tumor, hematoma, abscess, herniated disc
- Infectious myelopathy: HTLV1, HIV, varicella, progressive multifocal leukoencephalopathy (PML)
- Inflammatory or autoimmune myelopathy: transverse myelitis, multiple sclerosis, systemic lupus erythematosus, Devic's syndrome
- Others: neuromyelitis optica, arteriovenous malformations, porphyria.

Keywords: Spinal cord infraction; MRI; Owl's eye sign

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