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Acute Transverse Myelitis as a Paraneoplastic Manifestation in Chronic Myeloid Leukaemia on Imatinib Therapy: A Case Report

Dr. Vaibhav Balakrishna Gowda

Abstract: ***We present a rare case of transverse myelitis as a paraneoplastic manifestation in chronic myeloid leukemia on imatinib therapy. A 45 year old male presented with 5 day history of both lower limb weakness progressing to paresthesia and urinary retention and constipation. Patient is a known case of cml on imatinib therapy. On examination patient is having flaccid paraplegia with bilateral plantar extensor with sensory level at T8.MRI spine revealed hyperintense signal extending from D8 to conus medullaris. CSF showed mild pleocytosis with increased protein. Patient was started on injectable methylprednisolone and patient improved subsequently. Transverse myelitis is a rare paraneoplastic manifestation of systemic malignancy. Hence all cases of transverse myelitis should undergo paraneoplastic workup.***

Keywords: chronic myeloid leukemia, paraneoplastic syndrome, transverse myelitis, Imatinib

1. Introduction

Paraneoplastic syndromes refer to groupings of symptoms that occur in patients with malignant neoplasms that cannot readily explained by local invasion or distant metastasis of the tumour, or the elaboration of hormones indigenous to the tissue of origin of the neoplasm.[1] LETM is an unusual presentation of systemic malignancy. We report a rare case of extensive transverse myelitis in chronic myeloid leukaemia.

2. Case Report

A 45-year-old male patient presented with sudden onset of vague low backache and weakness of both lower limb for 5 days, unable to feel sensation below umbilicus for 4 days and urine retention and bowel incontinence for 2 days. There was no history of fever/diarrhoea/ trauma/recent vaccination/ drug/toxin exposure. His past medical history included that he was a known case of chronic myeloid leukaemia diagnosed 3 years back and was on daily dose of imatinib 400 mg. There was no similar illness present in the family. On physical examination, patient was hemodynamically stable. Higher cortical functions were intact with no craniopathies; flaccid paraplegia was present with are flexic bilateral lower extremities with absent abdominal reflex and bilateral up going plantar. All modalities of Sensation were absent below T8. Patient also had urinary retention and bowel incontinence.

On admission patient was catheterised and bowel was evacuated by enema. Laboratory revealed HB of 13.1 g/dl and WBC count of 7,200/. HIV serology was negative and there was no dyselectrolytemia. BCR-ABL1/ABL-1 transcript was 2.42%. Serum aquaporin-4 was negative. ANA profile done was negative.MRI spine revealed hyperintense T2WI signal in lower dorsal cord extending from D8 to conus medullaris without any compression which was suggestive of long extensive transverse myelitis. MRI brain done suggested normal study. CSF study showed mild pleocytosis with increased protein with no acid-fast bacilli and CSF culture was negative.

Patient was started on methylprednisolone pulse therapy of 1g/day for 5 days and was tapered to oral prednisolone of 1mg/kg subsequently. Patient regained bowel and bladder control at day four and power of both lower limbs on week two. Patient was continued with daily single dosage of Imatinib 400 mg.

3. Discussion

Transverse myelitis (TM) includes a pathobiological heterogeneous syndrome characterized by acute or subacute spinal cord dysfunction resulting in paresis, a sensory level, and autonomic (bladder, bowel, and sexual) impairment below the level of the lesion. There are multiple causes of transverse myelitis with most common being post infectious.[2]

Paraneoplastic neurologic syndromes (PNS) are defined as neurologic disorders that (1) can affect any part of the nervous system, often presenting with stereotyped clinical manifestations; (2) occur in association with cancer; and (3) have an immune-mediated pathogenesis that is supported by the frequentpresence of specific neuronal antibodies.[3] Myelitis is a rare paraneoplastic manifestation of malignancy. It is commonly seen in lung ca and lymphoproliferative malignancies.

Paraneoplastic syndromes associated with CML are – Membranous glomerulonephritis, Sweet's syndrome, Adult onset stills disease, Myasthenia gravis, Psoriatiform dermatitis.[4] LETM in CML is a rare entity and only one case has been documented till date.[4]

Acute treatment for transverse myelitis involves high-dose methylprednisolone to stop the inflammatory process. In patients with poor response to steroids, plasmapheresis has been performed to remove the humoral factors causing myelitis. Intravenous cyclophosphamide has also been cited especially for TM secondary to autoimmune conditions.

4. Conclusion

LETM as paraneoplastic syndrome in CML is a very rare entity. Hence all cases of transverse myelitis should undergo a thorough malignancy workup to rule out paraneoplastic aetiology.

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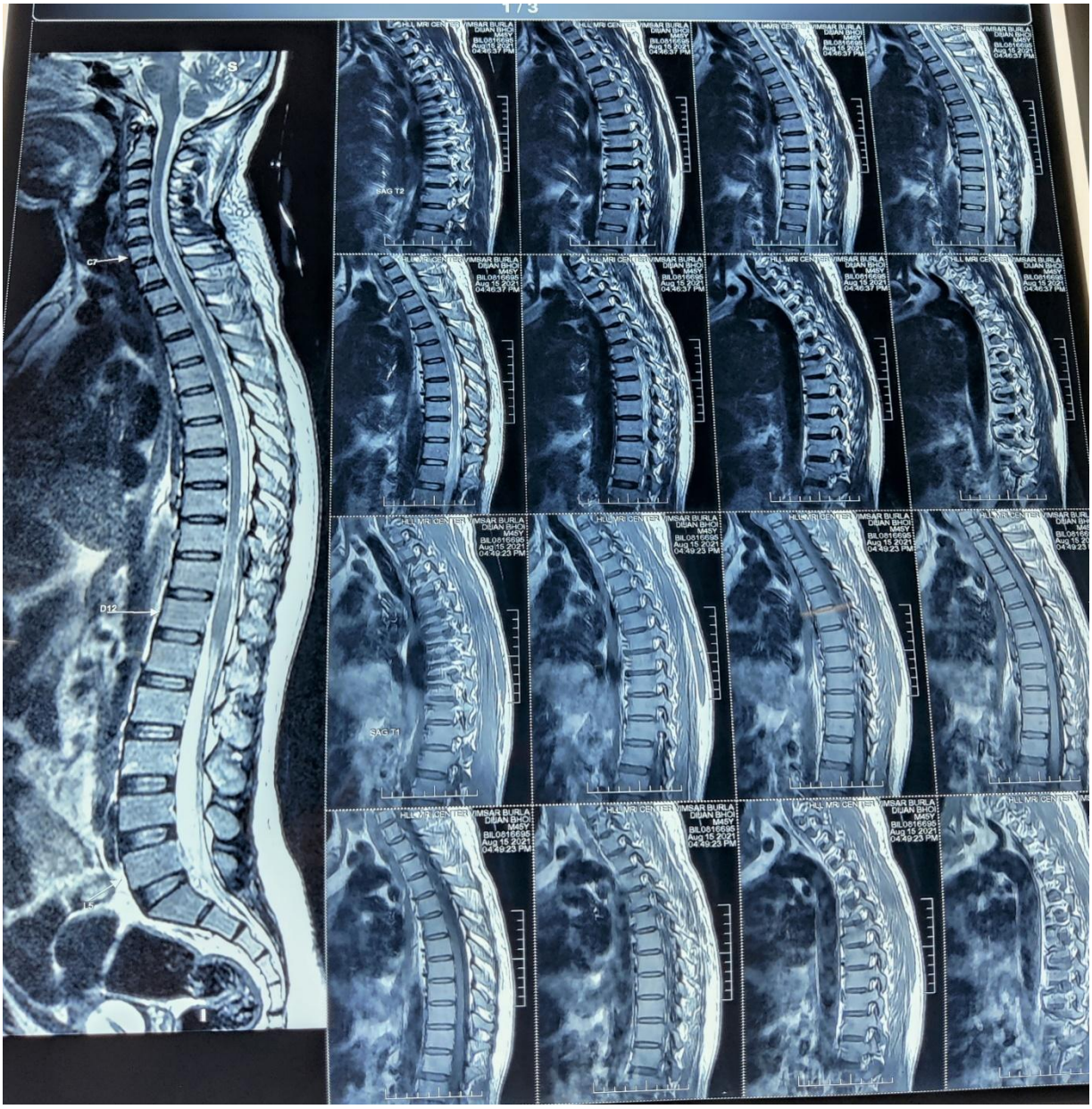

Ill defined intrinsic signal extending from D8 to conus medullaris appearing hyperintense on T2WI and hypointense on T1WI.