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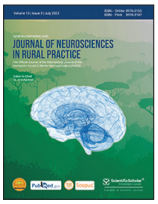

Images in Neuroscience

An unusual case of meningitis with lower limb weakness in an elderly patient

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B-cell chronic lymphocytic leukemia (CLL), the most common adult-onset leukemia is characterized by an abnormal proliferation of monoclonal B-type lymphocytes in blood, bone marrow, and lymphoid tissues.[1] Neurological involvement is a rare complication of the same.[2] We present here a case of a 72-year-old female patient presenting with paraparesis, who was found to have B-cell CLL and was treated for the same.

This 73-year-old female patient, a known case of diabetes and hypertension, presented with a one-month history of slowly progressive weakness of both lower limbs with low back pain. There was a 1 week history of intermittent high-grade fever before presentation. Clinical examination revealed a febrile patient with symmetric flaccid paraparesis (power grade 1/5 both lower limbs) with absent reflexes and normal sensations. Cranial nerve and upper limber examination were within normal limits. Terminal neck stiffness was present. A clinical diagnosis of lumbosacral radiculoneuropathy with meningitis of probable infective etiology was made, and she was investigated for the same.

Magnetic resonance imaging (MRI) of the spine with contrast showed spondylitis of the L1 vertebrae with bilateral psoas abscesses, clumping of the cauda equina nerve roots, and spinal arachnoiditis [Figure 1]. MRI brain showed meningeal enhancement with ventriculitis and communicating hydrocephalus. Ultrasound-guided aspiration of the psoas abscess was done and cultures sent were positive for *Staphylococcus aureus*-Methicillin Resistant (MRSA). Blood cultures were also positive for the same. After routine lumbar punctures failed due to spinal arachnoiditis, she underwent a computed tomography-guided cerebrospinal fluid (CSF) sampling. This showed neutrophilic pleocytosis (>3000 cells/mm^3) with low sugars and raised proteins. Gram stain, cultures, acid-fast bacillus smear, fungal cultures, and tuberculosis polymerase chain reaction were all negative. In view of a pyogenic meningitis picture in CSF and MRSA in culture, she was started on meropenem, vancomycin, and ampicillin along with corticosteroids. CSF shunting for hydrocephalus was offered but refused by the patient's relatives.

Blood investigations revealed anemia with elevated total counts and thrombocytosis. The possibility of an underlying hematological neoplasm was considered. She underwent a bone marrow biopsy with flow cytometry, which revealed a diagnosis of a B-cell CLL [Figure 2]. Due to the poor general condition of the patient, the relatives opted for only a palliative treatment. The patient succumbed to aspiration pneumonia during a hospital stay.

CLL is the most common leukemia in adulthood occurring at a mean age of 65 years. Although most patients have an indolent course, a certain subset has an aggressive outcome.[3] Defects of both humoral and cell-mediated immunity are common in CLL that predispose these patients to various secondary infections, which can involve the central and peripheral nervous systems.[4] CLL also can cause leukemic cell infiltration of the meninges and spinal roots causing complications.[5] Prompt recognition of these complications is necessary for early treatment.

The presence in adult patients of raised blood counts along with opportunistic infections of the brain and spinal cord should lead one to consider the presence of underlying hematological malignancies like CLL. Early recognition is necessary for adequate treatment and successful long-term outcomes.

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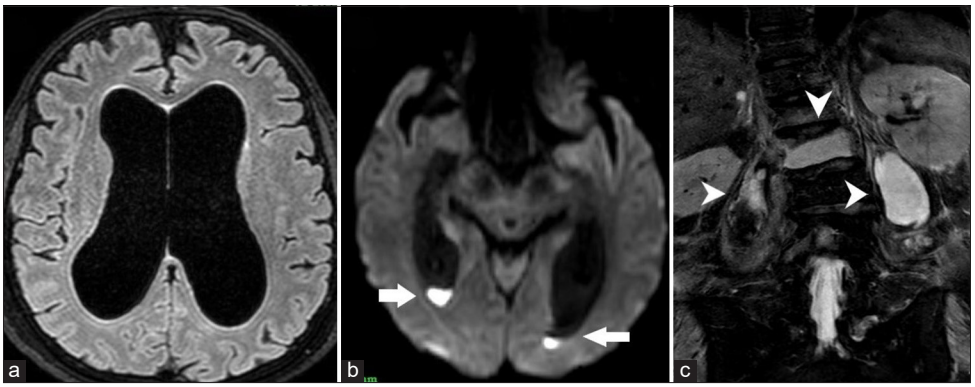

Figure 1: (a) Magnetic resonance imaging axial T2 image showing communicating hydrocephalus. (b) Diffusion-weighted images showing collection in ventricles-ventriculitis (arrows). (c) Coronal short-tau inversion recovery sequence showing bilateral psoas and intraosseous collections (arrowheads).

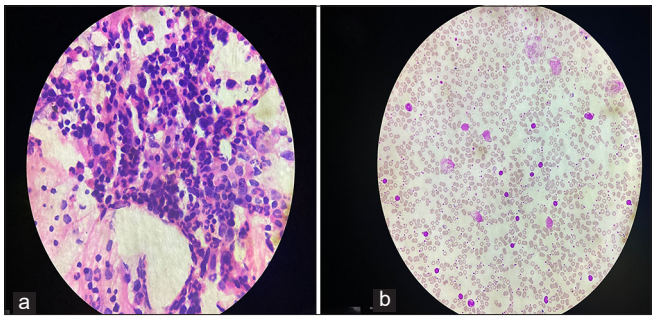

Figure 2: (a) Bone marrow biopsy (hematoxylin and eosin, 100x) showing increased lymphocytes. (b) Peripheral smear (hematoxylin and eosin, 10x) showing lymphocytes with smudge cells.

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