Letter to editor

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A Case of Vertebral Body Collapse Secondary to Hematological Malignancy

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Sir,

Hematological disorders produce a wide range of neurological complications. Some are well documented while others are less clearly defined. The various neurological manifestations of hematological disorders are produced by anemias, proliferative disorders, hemorrhagic disorders, coagulation disorders etc.

Leukemias are estimated to manifest with neurological manifestations in about 2 to 4% of cases. CNS involvement is often due to infiltration with leukemic cells, but they can also occur as a result of hemorrhage, infection, drug and radiation induced neurotoxicity, electrolyte imbalance or impairment of cerebral circulation due to leukostasis. The various ways in which leukemic cells enter CNS include direct seeding from circulating leukemic cells, lymphatic spread or direct invasion from overlying meninges or from cells with hematopoietic potential lying with arachnoid vessels[1]. The various CNS manifestations include meningeal leukemia, localized leukemic deposits, chloromas, hemorrhage, leukoencephalopathy etc.

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Case detail

A 14 yr old male patient presented with complaints of low backache radiating to both lower limbs since 2 months. It was dull aching type of pain which increases on walking. The patient stated that these complaints started when he fell down while playing. There were no complaints related to bowel or bladder. There was no other contributing history.

On examination the patient was well oriented and his vitals were stable. His neurological examination was normal except for minimal spinal tenderness and mild weakness of his lower limb muscle groups. His other systems' examination was normal. The patient was previously admitted in a hospital with complaints of backache about 2 years back. A review of his records showed that he had D9 fracture and was treated conservatively. Now his investigations were as follows:

Hb: 5.8gm%, TC: 11,900, ESR: 112mm, DC-Neutrophils: 27%, Lymphocytes: 70%, Monocytes: 2% and Eosinophils: 1%. Platelet count: 10,000/cmm, RBC count: 1.62 million/cmm, BT: 3 min, CT: 4 min. His peripheral smear showed microcytic, hypochromic blood picture with lymphocytosis and thrombocytopenia. Bone marrow study showed plenty of blasts with increased nuclear cytoplasmic ratio, scant cytoplasm and indistinct nucleoli and Acute lymphoblastic leukemia was the impression. USG abdomen showed hepatosplenomegaly and minimal ascites. His MRI showed wedge compression of D9, D11 and L4 vertebral bodies without

evidence pre or paravertebral collection. The patient was started on intravenous steroids and chemotherapy with vincristine, asparaginase, methotrexate and daunorubicin following which the patient improved clinically and regained the power in his limbs.

Discussion

Clinically significant spinal cord involvement is unusual in leukemias in contrast to intracranial meningeal involvement. The clinical syndromes relating to spinal cord involvement range from a complete cord syndrome to partial cord syndrome, anterior to posterior cord syndromes or the Brown-Sequard syndrome. Cord syndromes arise from compression by extradural deposits, direct infiltration, vascular occlusion, hemorrhage and due to compression by a collapsed vertebral body. Acute leukemia is the most common malignancy (36.6%), followed by neuroblastoma (33.3%), non-Hodgkin lymphoma (13.3%), rhabdomyosarcoma (10%), Ewing tumor (3.3%), and Hodgkin lymphoma (3.3%) in producing nuerological manifestations[2]. These are commoner with acute lymphoblastic leukemia as compared to acute myeloblastic leukemias[3]. The treatment of these cases includes supportive therapy, chemotherapy and correction of surgical disorders[4].

References

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