Case Report

Acute Myeloid Leukemia Presenting as Acute Bulbar Palsy

Singal KK[1], Mittal A[2], Aggarwal R[3], Aggarwal S[4], Khan RF[4], Sarin S[4]

Abstract:

Myeloid Sarcoma[1] (also termed as chloroma, granulocytic sarcoma, extra medullary myeloid tumor) is a rare extra medullary tumor composed of immature myeloid cells (myeloblast)[2]. It is usually associated with leukemia or other myeloproliferative disorder. Myeloid Sarcoma in the central nervous system, around the brain stem is the commonest site of presentation and require high suspicion for diagnosis. We report a forty years male patient with history of dysphagia, dysphonia for last two months. MRI showed chloromas around the brain stem. Laboratory investigations revealed the presence of AML. This is a rare case of Myeloid Sarcoma around the brain stem in a patient of AML.

Keywords: Acute Myeloid Leukemia (AML); myeloid sarcoma; chloromas; bulbar palsy

DOI: http://dx.doi.org/10.3329/bjms.v13i4.16056
Bangladesh Journal of Medical Science Vol. 13 No. 04 October '14. Page: 481-483

Introduction:

The condition now known as chloroma was first described by the British physician A. Burns in 1811[3], although the term *chloroma* did not appear until 1853[4]. This name is derived from the Greek word *chloros* (green), as these tumors often have a green tint due to the presence of myeloperoxidase. The link between chloroma and acute leukemia was first recognized in 1902 by Dock and Warthin[5]. However, because up to 30% of these tumors can be white, gray, or brown rather than green, the more correct term *granulocytic sarcoma* was proposed by Rappaport in 1967[6] and has since become virtually synonymous with the term *chloroma*.We report a rare case of Myeloid Sarcoma around the brain stem presenting as bulbar palsy .

Case Report:

A forty year male presented on 15/11/2012 with difficulty in swallowing for semisolids and solids

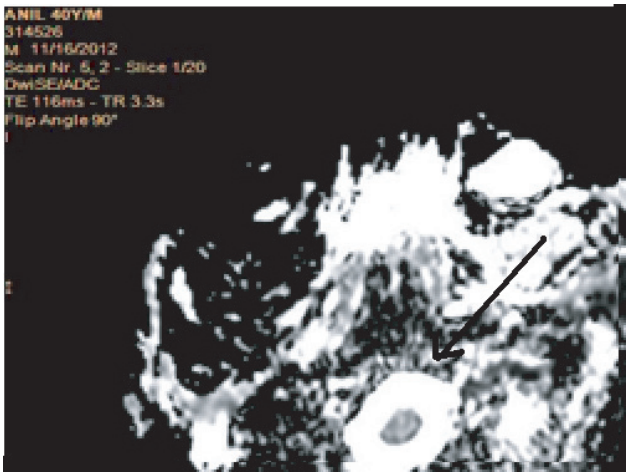

Fig. 1: MRI scan showing chloromas around the brain stem

1. Kiran Kumar Singal, Associate Professor, Department of Medicine , M.M.I.M.S.R., Mullana(Ambala) India.
2. Ajay Mittal, Professor, Department of Medicine, M.M.I.M.S.R., Mullana(Ambala) India.
3. Rajni Aggarwal, Assistant Professor, Department of Periodontology, Surendra Dental College and Hospital, Sri Ganganagar, India.
4. Saurav Aggarwal, Resident, Department of Medicine, M.M.I.M.S.R., Mullana(Ambala) India.
5. Rao Farman Khan, Resident, Department of Medicine, M.M.I.M.S.R., Mullana(Ambala) India.
6. Saakshi Sarin, Resident, Department of Medicine, M.M.I.M.S.R., Mullana(Ambala) India.

Corresponds to: Kiran Kumar Singal, Department of Medicine, M.M.I.M.S.R., Mullana(Ambala) India,
Email: drkiranambala@gmail.com

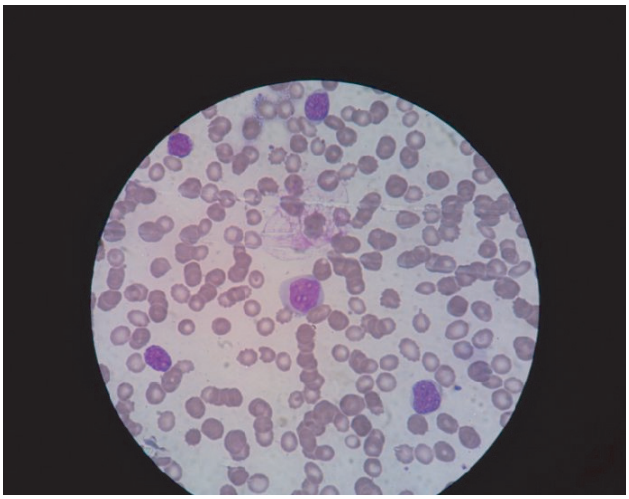

Fig. 2: Peri pheral blood film showing blast cells

which was slowly progressive but no difficulty in liquids for two month duration. He also had loss of speech but could whisper along with significant loss of weight and appetite for the same duration. He had bleeding from the gums along with swelling for one month . He had intermittent moderate grade fever along with dry cough for the same duration. He had history of weakness and fatigue of two weeks duration. During the hospital stay he developed weakness in right upper limb along with headache and bleeding from nose. There was no history of visual disturbances, bleeding from the skin, bony pains, excessive sweating or any other mass lesion on the body .On clinical examination patient was pale, febrile, moderately anaemic with gum hypertrophy and showed spontaneous bleeding from the gums. There was no lymphadenophathy, no sternal tenderness, no intrapulmonary haemorrhage, no intracranial haemorrhage, no coagulopathy. Abdominal examination revealed palpable tip of spleen, liver was enlarged 3-4 cm below right costal margin. Chest and CVS examination was normal. CNS examination showed absence of gag reflex and weakness grade 4 in right upper limb of lower motor neurone type.Investigations revealed Hb – 8.9%, ESR- 140 mm in first hour, TLC – 60, 500/cmm,DLC- P4,L6,E2,B0 Nucleated RBC – 30% Blast cells – 58% Platelet – 0.19 lac/cmm.HAEMOGRAM was suggestive of acute myeloblastic leukemia.MP – Negative, Widal – Negative, Dengue – Negative, HIV – Negative .Bone Marrow Examination – Acute Myeloid Leukemia.MRI – Chloromas around brain stem

Discussion:

AML is a heterogenous clonal disorder of haemopoietic progenitor cells that typically involves intramedullary proliferation of myeloid precursor cells. Extramedullary manifestation of AML are exceedingly rare, but do occur. Myeloid Sarcoma also known as chloroma or granulocytic sarcoma is a rare solid tumor composed of immature cells of the granulocytic series which occur in an extramedullary site. They can occur in subperiosteal bone structure, soft tissues, skin , lymph nodes, bone, orbit, and eye, bronchi, pericardium, peritoneum, gastrointestinal tract, kidney, breast, bladder and oral cavity, sphenoidal sinus. Patients with granulocytic sarcomas are frequently asymptomatic: 50% of cases are diagnosed only at autopsy. These tumors can involve any part of the body, either concurrently or sequentially. They often occur in multiples and preferentially involve orbits and subcutaneous tissue, but they may also occur in paranasal sinuses, lymph nodes, bone, the spine, the brain, pleural and peritoneal cavities, the breasts, the thyroid, salivary glands, the small bowel, the lungs, or various pelvic organs[7-8].

References:

1) James, William D.; Berger, Timothy G.; et al. (2006). Andrews' Diseases of the Skin: clinical Dermatology. Saunders Elsevier. *ISBN* 0-7216-2921-0.

2) Karlin L, Itti E, Pautas C, et al. (December 2006). "PET-imaging as a useful tool for early detection of the relapse site in the management of primary myeloid sarcoma". *Haematologica* 91 (12 Suppl): ECR54. PMID 17194660.

3) Burns A (1811). Observations of surgical anatomy, in Head and Neck. *London: Royce*.364.

4) King A (1853). "A case of chloroma". Monthly *J Med* **17**:17.

5) Dock G, Warthin AS (1904). "A new case of chloroma with leukemia". *Trans Assoc Am Phys* **19**(64):115.

6) Rappaport H (1967). "Tumors of the hematopoietic system". Atlas of Tumor Pathology, Section III, Fascicle 8. Washington DC: *Armed Forces Institute of Pathology*.241–7.

7) Pui MH, Fletcher BD, Langston JW. Granulocytic sarcoma in childhood leukemia: imaging features. *Radiology* 1994;**190**:698-702Read More: http://www.ajronline.org/doi/full/10.2214/ajr.178.2.1780319

8) Freedy RM, Miller KD Jr. Granulocytic sarcoma (chloroma): sphenoidal sinus and paraspinal involvement as evaluated by CT and MR. *AJNR* 1991;**12**:259-262 Read More: http://www.ajronline.org/doi/full/10.2214/ajr.178.2.1780319