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AML presenting with bilateral proptosis – A Case Report

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Introduction

The Leukemia are the most common malignant neoplasm in childhood, accounting for about 31% of all malignancies that occur in children less than 15 years of age[1]. Approximately 20% of childhood leukemia's are of myeloid origin and they represent a spectrum of hematopoietic malignancy [2]. Most myeloid leukemias are acute and remainder include chronic and/or sub-acute myeloproliferative disorder. The characteristic feature of AML is that more than 20% of bone marrow cells on bone marrow aspiration constitute a fairly homogeneous population of blast cells[3].the clinical feature of leukemias are pallor, listlessness, purpuric and petechial skin lesions or mucous membrane hemorrhages and its proliferative form also manifest as lymphadenopathy, spleenomegaly or hepatomegaly, bone and joint pain and tenderness and very rarely leukemic patients shows sign of raised ICT and cranial nerve palsy due to leukemic involvement of CNS [4].

Case report

Eight year old female child came to our OPD and presented with bilateral proptosis (fig 1) with difficulty in closing eyes since 2 ½ months and difficulty in swallowing & speech since one week. There was no history of recent onset fever or trauma.

Patient earlier went to private practitioner and diagnosed as a case of hyperthyroidism and given carbimazole but there was no relief, so patient came to our institute.

On clinical examination-

UCVA (OU) 6/6p.

IOP was 17(OD) 18(OS) recorded by NCT

Hersberg's corneal reflex central in both eye.

Pupil reflex normal in both eyes, no RAPD was detected

EOM – there was limitation of abduction (-3) in both eye (suggestive of 6th nerve involvement), rest ocular movements were full and free.

There was bilateral asymmetrical proptosis of 21mm (OD) and 24mm(OS) respectively.

Conjunctiva shows mild congestion (OU). Rest of anterior segment and fundus of both eyes was within

normal limits. B scan finding was also normal. Patient was advised lubricating eye drop 6 to 8 times in a day and lubricating eye ointment and taping at bed time.

The Patient was referred to pediatric department for systemic evaluation which reveals palsy of 7th, 9th, 10th cranial nerve apart from 6th nerve palsy. Rest of CNS and other systems were normal. Spleen and liver was not palpable. No lymphadenopathy, bone tenderness was noted.

Heart rate was 88/min, respiratory rate 28/min, BP 112/72 mmHg which was normal for age.

Investigation was advice for thyroid profile (which was not consistent with hyperthyroidism) and complete blood picture. Values are: T3 84.2 ng/dl T4 18.4 mcg/dl , TSH 1.5mcg/ dl, TPO absorption level 30.25micron/ml, Hb 9.2gm/dl, TLC 6900/mm3, platlet count 92000/mm3.

So finally CT orbit &brain was done which reveals proptosis secondary to infiltration (fig 2). To further know the exact cause bone marrow examination was done as peripheral blood picture appeared normal. And bone marrow examination reveals altered M:E ratio secondary to myloid hyperplasia with 60% blast cell of myloid series, erythroid series decreased in number, Megakaryocytes was also decreased (fig 3).

Patient was referred to oncologist of our institute for further management with close follow up to our side also.

Figure 1

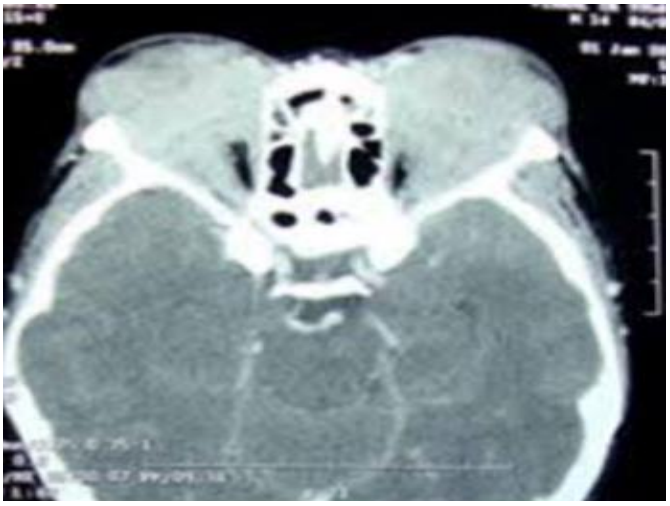

Figure 2

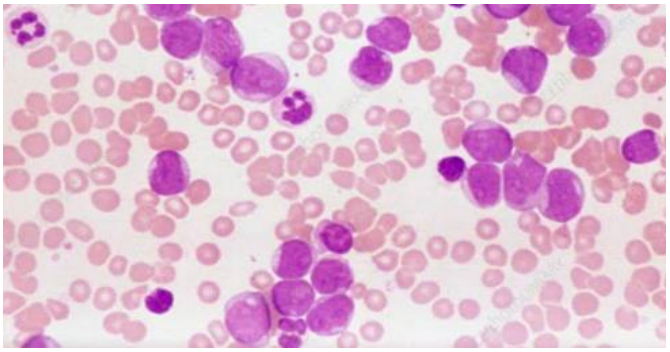

Figure 3

Discussion

Though the CNS and orbital involvement in AML is rare but we have to keep all possibility open to identify the underlying cause of proptosis and cranial nerve palsy as this case shows AML can present with proptosis and cranial nerve palsy without blast cells in blood. So reaching correct and early diagnosis is important in management of patients since advance of treatment the 5 year survival rate of patients with AML increased from less than 20% to 68% for children younger than 15years and from less than 20% to 57% for adolescent aged 15 to 19 years [5].

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