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An Unusual Case of Precursor T-Cell Lymphoblastic Lymphoma/Leukemia Presented As Leukemia Cutis: Case Report

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***Abstract*—** Precursor T-cell lymphoblastic lymphoma is relatively rare entity of the lymphoid neoplasm in older female which is most common in first decade of life with male predominance [2]. Medistinal mass and CNS involvement are very common in this neoplasm. This is the case of forty-three years old female patient primiraly diagnosed as Acute Lymphocytic Leukemia (SET-CAN fusion gene positive). After chemotherapy she presented with cutaneous skin manifestitations of plaque and nodules. So skin biopsy was performed, which shows hematolymphoid infiltration with TDT (+)CD4 (+), CD34 (+), CD99 (+) thus diagnosis is made as precursor T-cell lymphoblastic lymphoma stage IV by Ann Arbor classification. This disease has a relatively low risk of developing cutaneous lymph node and skin involvement and here is absence of classical mediastinal mass and CNS involvement. So, we try to report this unusual case for literature purpose.

***Keywords*—** Precursor T-cell lymphoblastic lymphoma; SET-CAN fusion gene; leukemia cutis.

I. INTRODUCTION

Precursor T-lymphoblastic leukemia (T-ALL)/lymphoma (T-LBL) is a neoplasm of lymphoblasts devoted to the T-cell lineage. Clinically, if there are more than 25 percent bone marrow blasts with or without a mass lesion, they are called precursor T-ALL /T-LBL. The term precursor T-LBL is used, if there is a mass lesion with less than 25 percent bone marrow involvement [1]. Patients are predominantly adolescent and young adult males, but older adults are occasionally affected [2]. Leukaemia cutis is defined as cutaneous infiltration by neoplastic leukocytes (myeloid or lymphoid) that results in clinically identifiable cutaneous lesions [3] Lymphocytic leukaemias involving skin are designated by their specific diagnosis, such as precursor B- or T-cell lymphoblastic leukemia/lymphoma and chronic lymphocytic leukemia. Cutaneous manifestation of T-Cell Acute Lymphoblastic in adult is uncommon**.**

II. CASE REPORT

A 43 year old female previously diagnosed as acute lymphoblastic leukemia is presented with skin nodules and patches in outpatient department. She was diagnosed as ALL with bone marrow findings. At the time of admission her vitals were temperature: 36.7 C, Pulse rate: 92 R / min, Respiratory rates: 20 / min, Blood Pressure 140/96mmHg.she has Normal development, good nutrition, and skin and mucosa visible red rash. No tenderness of sternum. Lungs clear, no rales. The heart rate is 92 beats per minute, no pathological murmur. The abdominal wall is soft, no tenderness, liver and spleen not palpable. White blood cell counts 2.70 *10^9/L, red blood cell count 3.68 *10^12/L, hemoglobin 11.6 g / L, neutrophil cell count 1.36 *10^9/L, lymphocyte count 1.17 *10^9/L, platelet count 169 *10^9/L. Right arm mass biopsy and immunohistochemistry showed that: SET/CAN fusion gene positive.

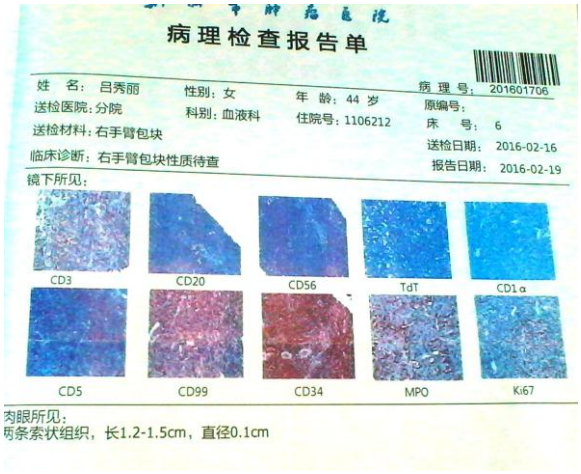

Fig. 1.

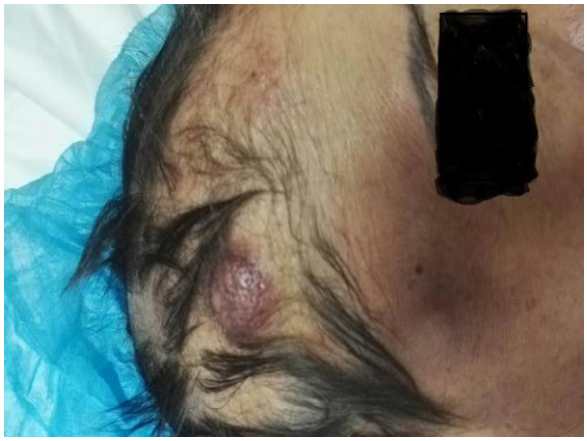

Fig. 2.

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Patients with NHL with bone marrow involvement, so diagnosis is made non Hodgkin's lymphoma, T cell lymphoblastic lymphoma, stage IV, SET/CAN positive and E-CHOP regimen given. Later on with skin nodules biopsy and immunohistochemistry shows TDT+, CD4+ CD99+ thus diagnosis is made as precursor T- cell Lymphoblastic Leukemia/Lymphoma stage IV according to ANN- ARBOR staging.

III. Discussion

Patients with leukaemia cutis may represent with single or multiple skin lesions [3]. The lesions are commonly described as violaceous, red-brown, or hemorrhagic papules, nodules, and plaques of varying sizes and shapes [6]. Erythematous papules and nodules are reported as the most common clinical presentation [3]. Most common sites are Legs are most commonly involved, followed by arms, back, chest, scalp, and face [4]. In our case the skin lesions were nodular in shape of various sizes.

Leukaemia cutis is unusual in patients with precursor B- or T-cell lym- phoblastic leukemia/lymphomas (1%) [8-11]. our case is unusual presenting as the precursor cell is T-cell lymphoblastic leukemia/Lymphoma. About 25-30% of infants with congenital leukemia have been reported to develop skin involvement [11, 12]. Acute lymphoblastic leukemia (ALL) is less frequent [4]. Our case is a 43 years patient with Tcell Acute Lymphoblastic Leukemia and so it falls into the rare category. It has been reported that involvement of skin and systemic leukaemia may occur in association in up to one third of the cases and, occasionally (in less than 10% of cases), skin infiltration can occur before bone marrow or peripheral blood involvement and in the absence of systemic symptoms [12]. In our case, skin manifestation was the first manifestation of precursor T-cell Lymphoblastic Leukaemia/lymphoma.

IV. Conclusion

This case of leukaemia cutis association with precursor T-Cell Lymphoblastic leukemia/Lymphoma has been presented for its rarity and clinical interest.

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