

CASE REPORT

LEUKEMIA CUTIS

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ABSTRACT

Leukemias are neoplasms of hematolymphoid cells that predominantly involve the peripheral blood and Cutaneous involvement occurs in various haematological malignancy. Here, we report a case of a 18 year-old male patient known to have Acute myeloid leukemia presented with multiple cutaneous lesions

Keywords: Thrombocytopenia, Leukemia Cutis, AML

CASE REPORT

In April 2014, a young 18 year old male patient presented to the outdoor patient department with complaints of running low grade, continuous fever for the previous two weeks that had increased in intensity in the last five days, recorded upto 104 F. It was followed by the development of a generalised body rash. The rash initially developed on the trunk, and then spread to the face and the proximal half of extremities. It was non pruritic, morbilliform in nature, with no evidence of crusting, ulceration or development of vesicles. History and examination did not reveal any other systemic involvement.

Investigations revealed leucocytosis [Total Leucocyte Count(TLC) = 18,100] with lymphocytic predominance (70%), mild thrombocytopenia (70,000/mm³) and normal values of Prothrombin Time and INR. There were a fair number of atypical lymphocytes present in the peripheral blood smear, without any immature or blast forms. D-dimer was raised (4013 ng/ml). A throat swab which was taken to rule out scarlet fever, yielded growth of *Sphingomonas paucimobilis*. The ELISA tests for Dengue virus, Epstein Barr Virus, Human Immunodeficiency Virus(HIV) and Salmonella typhi were negative. We had high suspicion of infection with Parvovirus or Measles virus, however DNA PCR analysis for both viruses were negative. Liver and Kidney panel, Urine analysis, Ultrasonography of the abdomen and Chest Roentgenogram were within normal limits, and so was the ANA titre. There was no evidence of any septic foci. Hence we clinically suspected him to be suffering from an acute viral illness, and treated

him symptomatically with paracetamol and other supportive measures.

However, his fever persisted, the rash seemed to progress, involved even the distal half of extremities and became more confluent, and the total leucocyte counts showed increments. Hence we resorted to Bone Marrow analysis, which showed presence of marked myeloid hyperplasia, with presence of more than 50% blasts and promyelocytes, features suggestive of Acute Myeloid Leukemia (AML:FAB-M2). Further, a skin biopsy from one of the lesions in the arm showed a perivascular, periadnexal epidermotropic mononuclear cell infiltrate with many large irregular cells showing eosinophilic cytoplasm, with no single files of cells seen, suggesting presence of Leukemia Cutis. The patient was subsequently referred to another centre which specialises in treating haematological malignancies and where facilities of bone marrow transplantation are available.

DISCUSSION

Leukemia Cutis comprises infiltration of the skin by malignant leucocytes, and both granulocytic and monocytic precursors can be present. Although it is found in 10-15% cases of AML¹, it can be found in various other myeloproliferative disorders, as evident in the WHO classification². The lesions most commonly occur as erythematous nodules or papules³, and involves the extremities followed by trunk, face and scalp. Most of these cases are seen after the diagnosis of leukemia has been established, however in one-third instances the lesions may occur concomitantly or may precede the in-

involvement of bone marrow or peripheral blood⁴, hence the term “Aleukemic Leukemia Cutis”. Diagnosis is confirmed by histopathology of skin biopsy specimen along with immunophenotyping. The development of Leukemia Cutis imparts a poor prognosis, with a mortality of about 88% within one year of the diagnosis⁴.

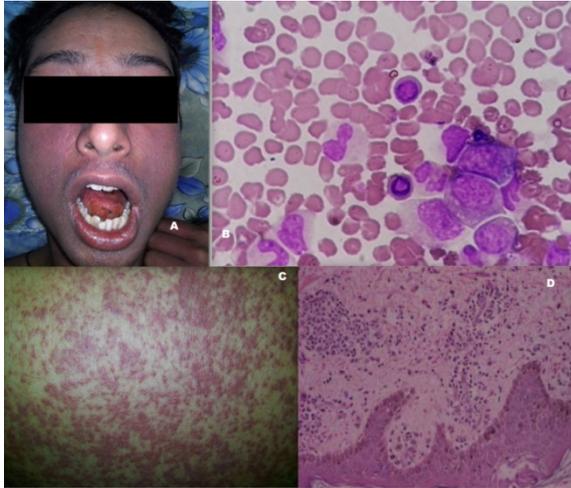


Figure: 1. Generalised body rash, 2. Fair number of atypical lymphocytes present in peripheral blood smear without any immature or blast form, 3. Bone Marrow analysis, which showed more than 50% blasts and promyelocytes, features suggestive of Acute Myeloid Leukemia

In our patient, history and clinical features led us to suspect a viral exanthem. However in case of

progressive disease and persistent symptoms, one must search for other possible diagnoses for a patient presenting with high grade fever and skin rash, especially connective tissue disorders and malignancies. Although nonleukemic cutaneous manifestations of leukemia like petechiae, purpura, vasculitis and neutrophilic dermatoses are much more common⁵, the possibility of Leukemia Cutis, being of prognostic significance, should always be kept in mind and ruled out by relevant investigations.

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