CASE REPORT

An unusual presentation of hairy cell leukemia with cellulitis – A case report

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Abstract:
Hairy cell leukemia is a rare B cell lymphoproliferative disorder. Patients typically present with peripheral cytopenias, circulating leukemia cells, marked splenomegaly and marrow infiltration. Very rare serious complications of hairy cell leukemia presents with cellulitis.

Case Report:
We present a case report of a 58 years old male patient, known case of hypertension, diabetes mellitus (uncontrolled), had the presenting complaint of bilateral leg cellulitis for a month. An extensive workup was done. Multidisciplinary teams were taken onboard. The patient had bilateral cellulitis later accompanied by pancytopenia, deranged liver function test, splenomegaly and acute kidney injury. His flow cytometry and autoimmune workup both were insignificant, bone marrow biopsy was done. He was being managed on these lines with his BDG galactomannan positive. The patient expired and post his expiry his biopsy was suggestive of hairy cell leukemia.

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Introduction:
Hairy cell leukemia is a rare B-cell lymphoproliferative disorder. Patients typically present with peripheral cytopenias, circulating leukemia cells, marked splenomegaly and marrow infiltration. Very rare serious complications of hairy cell leukemia presents with cellulitis.

Case Report:
We present a case report of a 58 years old male patient, known case of hypertension, Diabetes Mellitus (uncontrolled), had the presenting complaint of bilateral leg cellulitis for a month. An extensive workup was done. Multidisciplinary teams were taken onboard. The patient had bilateral cellulitis later accompanied by pancytopenia, deranged Liver function test, splenomegaly and Acute Kidney Injury. His flow cytometry and autoimmune workup both were insignificant, bone marrow biopsy was done. He was being managed on these lines with his BDG galactomannan positive. The patient expired and post his expiry his biopsy was suggestive of hairy cell leukemia.

Discussion:
Hairy cell leukemia (HCL) is one of the rare type of blood cancer characterized by abnormal changes in white blood cells known as B lymphocytes. The bone marrow creates numerous of these defective cells, hence named "hairy cells" due to the resemblance of the thin hair-like projections found on their surface. Over production and accumulation of hairy cells causes pancytopenia. Even though hairy cell leukemia develops in the bone marrow, it commonly travels to other organs as well. A common and by far the most constant physical finding in patients is an enlarged spleen two to three folds normal size. This can cause pain on the left side where

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the spleen is located, patient would experience satiety and in some cases severe pain. Consequently an instance of hairy cell leukemia introducing without splenomegaly puts both the clinician and pathologist in typical diagnostic dilemma, as these cases show just a little level of unusual mononuclear cells in the fringe blood just as in the bone marrow aspirate since bone marrow is typically fibrosed in these cases.

There is however no significant data but one such statistic from UK suggests that people with hairy cell leukemia have an overall survival of 5 years or more even after they are diagnosed more than 95 out of every 100 (more than 95%) cases.

There are some very rare cases in which hairy cell leukemia presents with unusual presentations like cellulitis or super-imposed bacterial or fungal infections and later the course of the disease follows the typical pathway of presentation like pancytopenia, splenomegaly.

We are discussing about one such case in our research. A 58 years old male patient with diabetes mellitus and hypertension as prior comorbid presented with bilateral leg cellulitis for a month, upon arrival all relevant investigations were done proceeded with extensive relevant workup his CBC reported pancytopenia which initially was not significant and he was responding to Granulocyte-colony stimulating factor (GCSF) his ANC levels improved initially later ANC significantly dropped and he was no longer responding to GCSF, his flow cytometry and autoimmune workup was unremarkable, the patient had long duration of hospital stay and during his stay of 28 days roughly, his bone marrow biopsy was planned earlier but because of his acute infective state it wasn't done earlier, later the biopsy was planned and done accordingly. The family was guarded about his prognosis with regard to the worsening lab parameters, patient expired and biopsy report was chased which reported hairy-cell leukemia

Conclusion:

According to research it's not always hard and fast or absolute rule to start treatment for hairy cell leukemia immediately after the diagnosis is confirmed. Because this cancer progresses very slowly and sometimes doesn't progress at all, treatment can be delayed. However; in unusual cases newer therapeutic agents are introduced and an early diagnosis is always helpful in those cases. The purpose of this case report is to enlighten the fact that splenomegaly is not the diagnosis of exclusion, hairy cell leukemia can present with rare unusual presentations like in our case. Hence a keen attention to morphological changes of the peripheral film along with biopsy with the changes in lab parameters shall be considered equally and are equally significant in labelling the disease earlier and likewise an early treatment decision can be made.

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Role and contribution of authors:

Dr Shazaf Masood Sidhu, collected the data, references and did the inital writeup

Dr Ainan Arshad, critically review the article and made final changes

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