



Spreading Soft Tissue Infection- A Rare Presentation of Cutaneous Lymphoma

Authors

Dr Vaibhav Chugh (MBBS, MS)*, Dr Vivek Agrawal (Director Professor)

Department of Surgery, UCMS & GTB Hospital, Delhi

*Corresponding Author

Dr Vaibhav Chugh

Department of CTVS, ABVIMS & Dr RML Hospital, New Delhi, India

Abstract

Introduction: *Lymphoma presenting with only dermatological manifestations is a rare entity. In very unusual cases, they present as refractory spreading cellulitis and diagnosed after failure of antibiotic therapy.*

Case Report: *A 50 year old man presented to surgery opd with complaints of intermittent fever and swelling over left axilla & adjoining anterior chest wall since 1 month. Based on clinical examination, provisional diagnosis of spreading cellulitis was made. Wound care and broad spectrum IV antibiotics were continued but the swelling and induration further progressed to involve whole of left upper limb and trunk. Skin biopsy of wound wall suggested possibility of either lymphoma or poorly differentiated small cell carcinoma. Immuno-histochemistry (LCA & Ck) suggested cutaneous lymphoma. Patient was referred to medical oncology department for initiation of chemotherapy. However patient died after 3 days due to disease progression.*

Literature does not report much of lymphoma presenting only as spreading cellulitis. This case shows that cutaneous lymphoma can manifest as spreading soft tissue infection which is remorselessly uncommon.

Conclusion: *Cutaneous lymphoma can present as spreading soft tissue infection.*

Keywords: *Lymphoma, cellulitis, biopsy.*

Introduction

Lymphomas can present with only dermatological manifestations in 0.5% of cases.¹ Sometimes, lymphoma presents as cellulitis and is diagnosed after failure of antibiotic therapy.² Cellulitis is an inflammatory disorder of the skin and subcutaneous tissue, and is most commonly caused by an infectious agent. Non-infectious causes such as malignant neoplasms may masquerade as infectious cellulitis and lead to a delayed diagnosis². To date, there are only a few

single-case reports of lymphoma masquerading as cellulitis.³⁻⁵ We report a rare case of cutaneous T cell lymphoma with diffuse skin and soft-tissue changes which is suggestive of cellulitis.

Case Report

A 50 year old man presented to surgery opd with complaints of intermittent fever and swelling over left axilla & adjoining anterior chest wall since 1 month. There was no other significant history. On examination, patient was afebrile and his vitals

were stable. Physical examination revealed erythematous and tender swelling along with induration of surrounding skin, with a palpable single lymph node in the axilla (Figure 1 and 2). Patient was admitted for further evaluation and management. Laboratory investigations including blood culture and x-ray chest were normal. USG chest revealed cutaneous oedema while USG abdomen showed splenomegaly. Based on all these findings provisional diagnosis of spreading cellulitis was made and a release incision was given in view of massive and tense swelling. Wound care and broad spectrum IV antibiotics were started. The patient continued to receive antibiotic treatment for 14 days, during which patient did not improve symptomatically. A diagnosis of refractory cellulitis was made and further higher IV antibiotics were started according to wound culture sensitivity report. However during the course of hospital stay of around one month, the swelling and induration further progressed to involve whole of left upper limb and trunk with blackish discolouration of surrounding skin. Wound edge biopsy was sent which was inconclusive. The diagnosis was established on the basis of histopathologic examination and immunohistochemical studies. Incision biopsy of wound wall was performed which showed possibility of either lymphoma or poorly differentiated small cell carcinoma. The immunohistochemical staining for leukocyte common antigen (LCA), CD30, and CD45RO were positive and there was a negative result for CD20, suggestive of cutaneous T cell lymphoma. Patient was referred to medical oncology department for initiation of chemotherapy where necessary investigations were requisitioned. However, during next 3 days the patient developed multiple cutaneous swellings on left arm and left lumbar region leading to massive arm and neck oedema resulting in respiratory compromise and sudden death.



Figure 1 Erythematous swelling around left axilla



Figure 2: Inflamed mass with surrounding indurated skin

Discussion

Lymphoma is composed of indolent as well as aggressive human malignancies which arise from cells of the immune system at different stages of differentiation. They can manifest in a wide range of morphologic, immunologic and clinical findings. Malignancies of lymphoid cells may present as leukemia (i.e., primary involvement of bone marrow and blood), or as lymphoma (i.e., solid tumors of the immune system).⁶

At least one quarter of non-Hodgkin lymphomas arise from tissue other than lymph nodes and even from sites which normally don't contain lymphoid tissue.^{7,8} These forms are referred to as primary extranodal lymphomas. The skin is the second most common site of primary extranodal non-Hodgkin lymphoma following the gastrointestinal tract.

Almost any organ can be affected by lymphoma, with the most common extranodal sites of involvement being the stomach, spleen, Waldeyer ring, central nervous system, lung, bone, and skin.⁹ Non-Hodgkin lymphomas and, to a lesser degree, Hodgkin disease can present with skin manifestations.¹⁰ In rare cases lymphoma presents as cellulitis, usually diagnosed after failure of conventional antimicrobial therapy.¹¹ Persisting fever or generalized lymphadenopathy may suggest the diagnosis. Diagnosis of lymphoma always requires histologic confirmation.

One of the most common forms of T-cell lymphoma is cutaneous T-cell lymphoma (CTCL), a general term for T-cell lymphomas that involve the skin. CTCL also can involve the blood, the lymph nodes, and other internal organs. Symptoms can include dry skin, itching (which can be severe), a red rash, and enlarged lymph nodes. The disease affects men more often than women and usually occurs in men in their 50s and 60s.

Cutaneous T cell lymphomas (CTCLs) are a heterogeneous group of lymphoproliferative disorders caused by clonally derived, skin-invasive T cells. Cutaneous T cell lymphomas (CTCLs) have a wide variety of clinical and histopathological manifestations but are all characterized as extranodal non-Hodgkin lymphomas of malignant, mature T lymphocytes that target and persist in the skin.¹² Most patients with CTCL experience only skin symptoms, without serious complications; however, approximately 10 percent of those who progress to later stages develop serious complications. Early stage CTCL is typically indolent; some patients with early-stage CTCL might not progress to later stages at all, while others might progress rapidly, with the cancer spreading to lymph nodes and/or internal organs. Chemotherapy is the treatment modality of choice

The patient in this study was presented with suspected cellulitis that did not respond to conventional antimicrobial treatment leading to delayed diagnosis and unfortunate death due to

disease progression. Hence, one should consider, several non-infectious disorders that might masquerade as infectious cellulitis. Diseases that commonly masquerade as this condition include thrombophlebitis, contact dermatitis, insect stings, drug reactions, eosinophilic cellulitis (the Wells syndrome), gouty arthritis, carcinoma erysipelatoides, familial Mediterranean fever, and foreign-body reactions. Diseases that uncommonly masquerade as infectious cellulitis include urticaria, lymphedema, lupus erythematosus, sarcoidosis, lymphoma, leukemia, Paget disease, and panniculitis.² The literature lacks data about the relative frequency of infectious cellulitis compared with non-infectious masqueraders. Clinicians should do an initial diagnostic work-up directed by the findings from a detailed history and complete physical examination. In many cases, skin biopsy is the only tool that helps identify the correct diagnosis.

Conclusion

In conclusion, we present a rare case of cutaneous T cell lymphoma with clinical features of cellulitis. Diagnosis of lymphomas masquerading as cellulitis is challenging for surgeons. Our case underscores the importance of searching for possible underlying causes in patients with a clinical diagnosis of cellulitis that does not respond to antibiotics. Nevertheless, if a patient had skin lesions similar to cellulitis or ulcers that had failed to respond to empirical antibiotics, and imaging findings were not suggestive of benign inflammation, lymphomatous involvement should be considered which can be confirmed by histopathologic examination and immunohistochemical studies. This will help in making timely diagnosis and further management will be planned accordingly, failing which will lead to disease progression and increased morbidity and even mortality of the patient.

References

1. Heydari A A, Sarvghad M, Meybodi N T et al. Lymphoma presenting as non-

- responding cellulitis. *Medical Practice and Review* Vol. 4(3), pp. 20-22, March, 2013.
2. Falagas ME, Vergidis PI Narrative review: Diseases that masquerade as infectious cellulitis. *Ann. Intern. Med.* 2005; 142(1):47-55.
 3. Falagas ME, Bliziotis IA, Rafailidis PI, Peppas G. Peripheral T-cell lymphoma masquerading as infectious cellulitis. *Eur J Dermatol* 2007;17:166–7.
 4. Mak ST, Wong AC, Tse RK. Diffuse large B-cell lymphoma masquerading as orbital cellulitis. *Hong Kong Med J* 2010;16:484–6.
 5. Tzeng HE, Teng CL, Yang Y, Young JH, Chou G. Occult subcutaneous panniculitis-like T-cell lymphoma with initial presentations of cellulitis-like skin lesion and fulminant hemophagocytosis. *J Formos Med Assoc* 2007;106:S55–9.
 6. Armitage JO, Longo DL. Malignancies of lymphoid cells. In: Kasper DL, Braunwald E, Fauci AS, et al., editors. (15): *Harrison's principles of Internal Medicine*. New York: The McGraw-Hill Companies; 2005. p. 641–55.
 7. Zucca E, Roggero E, Bertoni F, Cavalli F. Primary extranodal non-Hodgkin's lymphomas. Part 1: Gastrointestinal, cutaneous and genitourinary lymphomas. *Ann Oncol* 1997; 8: 727-737.
 8. Bertoni, F., Sanna, P., Zucca, E., Roggero, E., Cavalli, F Primary extranodal lymphoma of skeletal muscles: A report of four cases, *Oncology Reports* Volume 5, Issue 3, 1998, Pages 605-607.
 9. Paes FM, Kalkanis DG, Sideras PA, Serafini AN. FDG PET/CT of extranodal involvement in non-Hodgkin lymphoma and Hodgkin disease. *Radiographics* 2010; 30(1):269-29.
 10. Cavalli F. Rare syndromes in Hodgkin's disease. *Ann Oncol.* 1998;9 Suppl5:S109-13. [PMID: 9926248].
 11. Baddour LM, Haden KH, Allen JW. Primary skeletal muscle lymphoma presenting as refractory cellulitis. *Cutis.* 2001;68:223-6. [PMID: 11579790].
 12. Girardi, M., Heald, P.W., and Wilson, L.D. The pathogenesis of mycosis fungoides. *N. Engl. J. Med.* 2004; 350: 1978–1988.