Original Article

Cutaneous Manifestation in Haematological Malignancy: An Observational Study in Tertiary Level Specialized Cancer Hospital

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Abstract

In recent years, cutaneous manifestations in haemato-oncological patients have become more common. The current study was conducted to see the incidence and heterogeneity of skin manifestations in patients of haematological malignancy in the hemato-oncology unit of National institute of cancer research and hospital, Dhaka, Bangladesh. This observational study was conducted on 146 patients. Skin lesions were divided into specific infiltrative lesions and various non-specific manifestations. Among all patients total of 103 patients had significant cutaneous manifestations. Specific manifestations were detected in 15 (10.27%) of the cases. Various types of infection including bacterial, viral and fungal were the commonest (40.41%) skin involvement. As patients of malignancy are commonly immuno-compromised they are reasonably more prone to infections. Skin lesions in hemato- oncologic patients are a common event. A multidisciplinary approach based on the collaboration between the haematologist and the dermatologist is crucial to achieve a proper diagnosis, and correctly manage these manifestations.

Keywords: hematologic malignancy; leukaemia; lymphoma; skin manifestation.

Introduction:

Haematological malignancies can be presented with various cutaneous lesions. Grossly these can be divided into two groups. Specific cutaneous lesions can be caused by infiltration of the skin by malignant cells and nonspecific cutaneous lesions can be infection, hemorrhagic lesion or pruritus.[1] Specific cutaneous involvement occurs in 10% to 50% of patients with acute myelogenous leukaemia (AML) of the French- American-British (FAB) classification subtypes M4 and M5, up to 10% of patients with AML-FAB subtypes M0, M1, M2, M3, and in about 2% of patients with chronic myelogenous leukaemia (CML).[2-7] Specific lesions (leukaemia cutis) are localized or disseminated infiltrations of the skin by leukemic cells which may infiltrate in all layers of the skin. The clinical appearance of leukaemia cutis may range from papules and nodules to a generalized cutaneous eruption.[7] The histopathological report of the skin lesion is necessary for the diagnosis of leukaemia cutis. Specific skin lesions are usually associated with an aggressive clinical course and poor prognosis.[8] Patients with Hodgkin's disease suffer more from non-specific skin lesions. Generalized severe pruritus an important finding of Hodgkin's disease may be preceded by many months or may occur in patients with a known diagnosis. An evaluation for underlying lymphoma should be considered in patients with severe itching.[5] Cutaneous involvement by a hematopoietic malignancy may secondarily occur in certain forms of leukaemia (leukaemia cutis), in nodal or extranodal B-cell or T-cell lymphomas, or as a primary cutaneous B-cell or T-cell lymphoma. Primary cutaneous T-cell lymphoma (CTCL)

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Received: 20 May 2022 Accepted: 03 June 2022 Available Online: 01 July 2022

Cite this Article:
Nasim R, Wahab F, Mahmud H, Shaila KN. Cutaneous Manifestation in Haematological Malignancy: An Observational Study in Tertiary Level Specialized Cancer Hospital. J Ban Acad Dermatol. 2022; 02 (02): 82-85

Available at: www.jbadbd.com
An official publication of Bangladesh Academy of Dermatology (B.A.D.)

encompasses a diverse group of diseases with distinct clinical presentations, pathologic features, treatment approaches, and outcomes.[9] The current study demonstrated the cutaneous findings of patients with various haematological malignancies.

Methods:

This cross-sectional observational study was carried out in the hemato-oncology unit of the national institute of cancer research and hospital from January 2020 to January 2021. A total of 146 consecutive patients who were already diagnosed with haematological malignancies and hospitalized were evaluated for one year. Infiltrative skin lesions were confirmed by histopathology. Other manifestations were mostly evaluated clinically. All age groups and those who were willing to give informed written consent were included in this study.

Result:

Most of the patients 68 (46.57%) with hematologic malignancies belonged to the age group 30-44 years. Male predominance was shown in the table below.

Table I: Demographic profile of the subjects (n=146)

Age (years)	Frequency (n)	Percentage (%)
15-29	23	15.75
30-44	68	46.57
45-59	35	23.97
>59	20	13.69
Gender		
Male [n (%)]	108	73.97
Female [n (%)]	38	26.03

Table II: Distribution of different types of haematological malignancies

Among different types of haematogical malignancies included in the current study acute lymphoblastic leukaemia was the most frequent (24.66%) whereas CLL is the least common (2.73%).

Types of malignancies	Number
HL	18 (12.33%)
NHL	24(16.44%)
ALL	36(24.66%)
AML	31(21.23%)
CML	22(15.06%)
CLL	4(2.73%)
MM	11(7.53%)

Table III: Skin lesions of haematological malignancy

Various microbes infections were the commonest manifestation in haematological malignancies. Malignant infiltration of the skin and haemorrhagic spots were most frequently seen in acute myeloblastic leukaemia.

Malignancy	No Lesion	Infection	Malignant infiltration	Haemorrhagic	other nonspecific
HL	9	8	0	0	9
NHL	2	11	4	0	12
ALL	11	17	0	7	11
AML	6	9	7	13	7
CML	7	10	4	0	8
CLL	3	0	0	0	1
MM	5	4	0	0	2

Discussion:

Cutaneous lesions may vary in morphology and presentation according to types of hematologic malignancy.[10-14] In the current study, 146 patients were included where the majority suffered from infectious conditions and most of the infections were found in AML, NHL and ALL and CML patients. Herpes simplex virus infection, superficial dermatophytosis, scabies, carbuncle, and mucosal candidiasis were the commonest infections. A study was done by Haque et al., over 127 patients among which 32 had an infection.[1] That study was in the agreement with the current one. Leukemic infiltrates may have various presentations like macules papules, infiltrated plaques or nodules with distinctive texture and colour i.e, blue-violet, or red-brown. Some patients with leukaemia develop diffuse morbilliform eruptions interpreted as allergic reactions to circulating leukemic cells but most are probably true leukemic infiltrates with very few malignant cells. A total of patients were suffering

from malignant infiltration. Among them, out of 22 CML patients, 4(18.19%) had malignant infiltration of the skin. One study was done in Turkey they have got malignant infiltration in 22.27% of patients out of 22 CMLpatients.[15] This study is correlated with our study. Gingival hyperplasia is secondary to infiltration of the gingival tissue with leukaemia cells and is well described in the literature. In the most extensive review of the topic, gingival hyperplasia was observed in AML with a frequency of 3% to 5% among 1,076 patients receiving anti-leukaemia chemotherapy at a referral centre. Gingival hyperplasia is most commonly seen with the AML subtypes acute monocytic leukaemia (M5) (66.7%), acute myelomonocytic leukaemia (M4) (18.5%), and acute myelocytic leukaemia (M1, M2) (3.7%).[10]
Gingival hyperplasia was found in 2.73% of patients out of 31 AML patients. Another study by Yalcin AD et al showed gingival hyperplasia in 4 patients out of 21 AML patients. The findings are nearly correlated with the current study.[15]
Cutaneous involvement in malignant lymphomas may be primary or secondary. Malignant lymphomas may occur de novo in the skin or after spread from internal organs. Non-specific skin findings such as pruritus, hyperpigmentation, nodular or popular prurigo, ichthyosis-like lesions, etc.[1] In the current study 7.53%patientshas been suffering from generalized pruritus, and most of them were HL. Pigmentation was found in 4.79% of patients in which 2 patients were with NHL, 4 patients with ALL, and 1 patient with CLL. Another nonspecific skin lesion Prurigo was found in 8 patients. A total of 8.9% of patients have got ichthyosiform lesions in different types of hematologic malignancies. Out of them, 9 were found with NHL and 4 were found with HL. Out of 146 patients, 29.45% were free of any skin infestation.

Conclusion:

About two-thirds of study subjects had skin lesions not directly related to malignancy. No significant statistical difference was found between different types of malignant disorders according to lesions. Cutaneous infiltrative lesions and hemorrhagic findings, both were predominant in leukaemia. In the case of non-specific manifestation, infections were predominant in both leukaemia and lymphoma. Sometimes cutaneous lesions can be a forerunner of haematological malignancy. So, more extensive studies with larger sample sizes are needed for further evaluation.

Conflict of interest:

None.

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