Journal of the Turkish Academy of Dermatology
eISSN 1307-394X

Case Report DOI: 10.6003/jtad.1591c4

Imaging Findings in a Case of Mycosis Fungoides

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Published:
J Turk Acad Dermatol 2015; **9 (1)**: 1591c4
This article is available from: http://www.jtad.org/2015/1/jtad1591c4.pdf
Keywords: Mycosis fungoides, imaging findings

Abstract

Observation: Mycosis fungoides is a type of malignant T-cell lymphoma that primarily involves the skin. In its later stages, mycosis fungoides can cause peripheral lymphadenopathy and also progress to widespread extracutaneous visceral involvement. The cutaneous lesions including patches, plaques, or erythroderma show no abnormalities at CT. In the stage of tumor formation, thickening or a mass of the skin is seen at CT. Evaluation of extracutaneous involvement, disease progression, and stage is the most important role of imaging in mycosis fungoides. Extracutaneous involvement causes a dramatic decrease in the survival rate. Therefore, CT demonstration of clinically unsuspected lymphadenopathy or abnormality in visceral organs such as hepatosplenomegaly is important. We report the imaging findings of a patient of mycosis fungoides with extensive cutaneous, nodal and visceral and unusual thyroid gland involvement.

Introduction

Mycosis fungoides is a type of malignant T-cell lymphoma that primarily involves the skin. In its later stages, mycosis fungoides can cause peripheral lymphadenopathy and also progress to widespread extracutaneous visceral involvement.

Imaging plays a role in the evaluation of extracutaneous involvement, disease progression, and staging mycosis fungoides. Extracutaneous involvement causes a dramatic decrease in the survival rate. Therefore, CT demonstration of clinically unsuspected lymphadenopathy or abnormality in visceral organs such as hepatosplenomegaly is important [1].

We report the imaging findings of a patient of mycosis fungoides with extensive cutaneous,

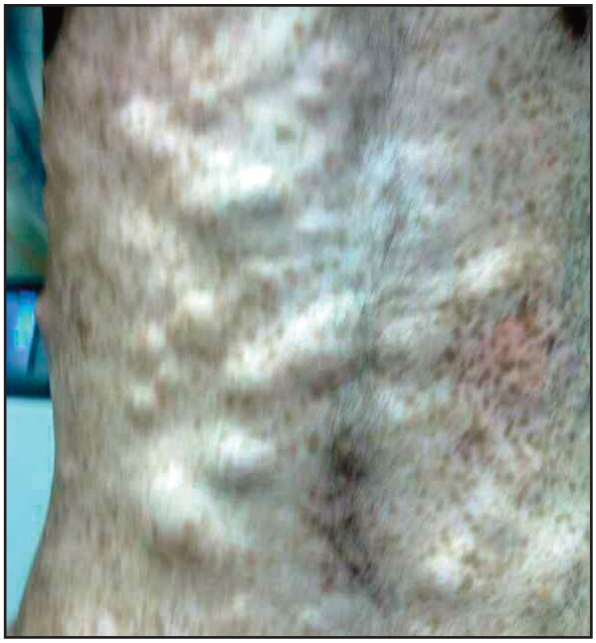

Figure 1. Patient showing multiple skin nodules

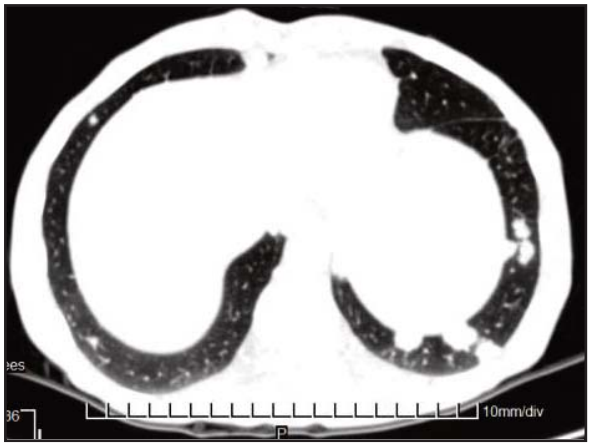

Figure 2. CT chest in lung window showing multiple nodules in bilateral lower lobes

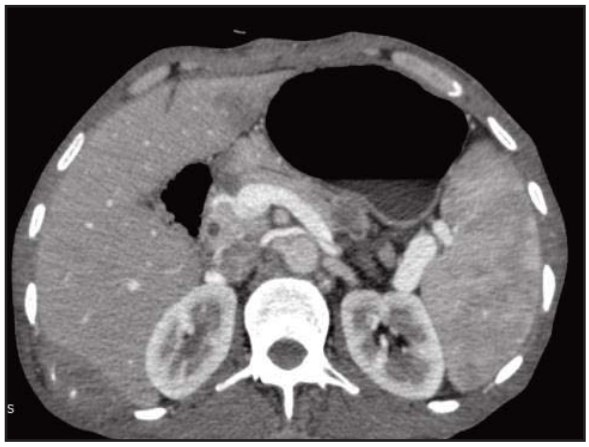

Figure 3. CECT showing hypodense lesions in the liver and pancreas. Expansile lytic soft tissue of the right rib

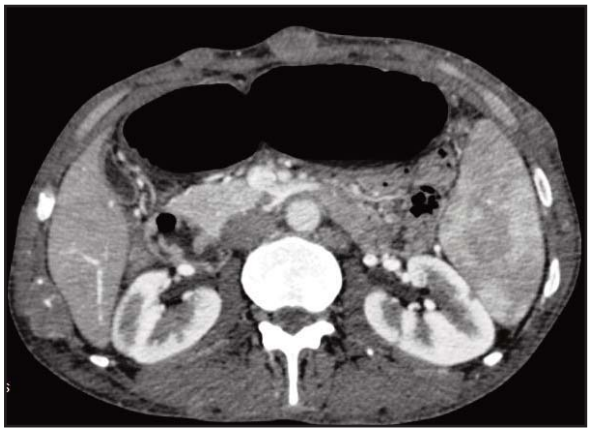

Figure 4. CECT multiple enhancing subcutaneous nodules

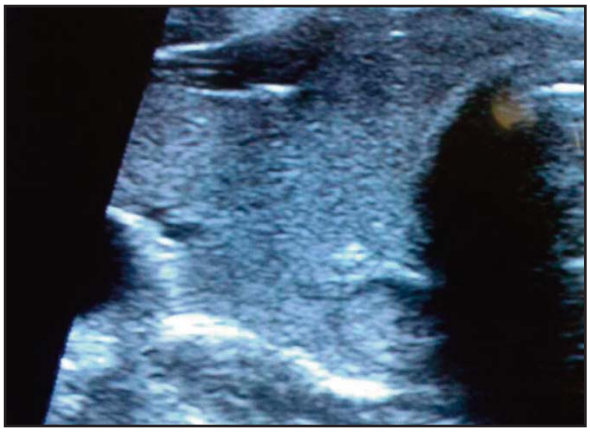

Figure 5. Ultrasound of the thyroid showing isoechoiec lesions with halo

nodal and visceral involvement and unusual involvement of the thyroid gland.

Case Report

A 46 year old male presented with itchy hypopigmented patches which gradually progressed in size and number over the past two years. Patient also complained of nodular lesions all over the body (**Figure 1**), some of which show ulceration for the last two months.

Blood investigations showed Haemoglobin: 11 g/dl, RBC count:3.98 /mm3,TLC: 4000/mm3, Platelet count: 1.2 lakh/mm3, DLC: P78 L20 E02. Peripheral smear showed normocytic normochromic anemia with anisocytosis and poikilocytosis.

Liver function tests, kidney function tests, serum electrolytes, thyroid function tests were within the normal range. HIV and VDRL tests were negative.

Ultrasound and Contrast enhanced CT of the patient done in the Department of Radiology (**Figure 2, 3 and 4**).

Multiple isochoiec lesions with a hypoechoiec halo were noted in the thyroid on ultrasound with peripheral vascularity on Colour Doppler (**Figure 5**). These were seen as hypodense nonenhancing nodules on CT. There was no calcification within these nodules.

CT revealed multiple nodules in lower lobes of bilateral lungs.

Multiple hypodense nonenhancing lesions were noted in the liver, pancreas and in bilateral kidneys. A well defined lobulated lesion measuring 5x4.2 cm was noted in the left anterolateral abdominal wall. Similar smaller lesions noted in posterior abdominal wall. Multiple enhancing subcutaneous nodules noted.

Multiple lytic bone lesions associated with enhancing soft tissue component were seen involving the

scapula, right clavicle, posterior ends of right 9th, 10th and 11th ribs and left 7th rib and sacrum.

Biopsy from the subcutaneous lesions revealed pautriers abscesses and epidermotropic infiltrate of atypical lymphoid cells.

Discussion

Mycosis fungoides is a peripheral non-Hodgkin's T-cell neoplastic process, representing the most common type of primary cutaneous malignant lymphoma [**2**]. The disorder is more common in males and in blacks. Mycosis fungoides is an indolent lymphoma, with patients often having several years of eczematous skin lesions before the diagnosis is finally established. The cutaneous lesions including patches, plaques, or erythroderma show no abnormalities at CT. In the stage of tumor formation, thickening or a mass of the skin is seen at CT. The imaging features of mycosis fungoides are nonspecific, and differentiation from cutaneous involvement by other diseases including T-cell leukemia and from connective tissue disease is frequently not possible [**1**].

In its later stages, mycosis fungoides can cause peripheral lymphadenopathy and finally progress to widespread extracutaneous visceral involvement. Visceral involvement is a relatively common but poorly appreciated. The lungs are the most common site of visceral involvement [**3, 4, 5, 6**]. The other usual sites of extracutaneous dissemination of mycosis fungoides are liver, spleen, and blood.

Thyroid involvement as seen in our case is extremely rare and has been reported in only a few case reports [**4, 7**]. Thyroid involvement is seen in the form of multiple nodules. Oral retinoids used in the treatment of MF decrease thyroxine production and thyroid hormone replacement might be required.

On histopathology small intraepidermal collection of lymphocytes also called Pautrier microabscess can be seen in early lesions. The normal structure of the skin is usually destroyed in later stages [**6**]. The histological finding is a key due to lack of specific clinical finding or criteria.

Patients have been treated with radiation therapy, topical glucocorticoids, retinoids,topical nitrogen mustard, phototherapy, psoralen with ultraviolet A, electron beam radiation, interferon, and systemic cytotoxic therapy [**8**].

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