

## SKIN SIGNS OF A PATIENT WITH T-CELL NHL

Stoyan Pavlov<sup>1</sup>, Vl. Gerov<sup>2</sup>, St. Racheva<sup>1</sup>, M. Slavova<sup>1</sup>

1) Department of Dermatology and Venerology,

2) Department of Hematology,

Medical University – Varna, Bulgaria

### RESUME:

T-cell non-Hodgkin lymphomas (NHLs) are uncommon malignancies that represent approximately 12% of all lymphomas. The most common extranodal sites for NHL are the gastrointestinal tract and nasopharynx; other common sites include skin, brain, bone, thyroid, breast, lung, and testis.

We presented 50 years male patient with peripheral CD30+Tcell NHL with skin and liver involvement. The diagnosis was made on the base of clinicopathologic and immunophenotypic examination.

When the treatment was conducted, the patient responds to systemic chemotherapy with resolving of skin nodules and liver infiltrates.

Our case illustrates that even in secondary cutaneous lymphomas, skin manifestations may be the first sign of systemic disease, and a diagnosis may be achieved on examination of specimens of a cutaneous lesion.

### INTRODUCTION:

T-cell non-Hodgkin lymphomas (NHL) are uncommon malignancies that represent approximately 12% of all lymphomas.(1)

T-cell NHL commonly presents with extranodal disease and often contains varying amounts of necrosis/apoptosis on biopsy specimens, making differentiation between a reactive process and lymphoma challenging.

Precise clinicopathologic, immunophenotypic, cytogenetic, and molecular analyses have enhanced diagnostic capabilities and improved classification and prognostication for T-cell NHL.

The current World Health Organization/European Organization for Research and Treatment of Cancer (WHO/EORTC) classification recognizes 9 distinct clinicopathologic peripheral T-cell NHLs. (5,10)

Leukemic/disseminated:

- Adult T-cell leukemia/lymphoma

Nodal:

- Peripheral T-cell lymphoma, unspecified

- Angioimmunoblastic T-cell lymphoma

- Anaplastic large-cell lymphoma, T/null cell, primary

systemic type

Other extranodal:

- Subcutaneous panniculitis-like T-cell lymphoma
- Cutaneous  $\gamma$ -delta T-cell lymphoma
- Hepatosplenic  $\gamma$ -delta T-cell lymphoma
- Extranodal NK/T-cell lymphoma, nasal type
- Enteropathy-type T-cell lymphoma

Specific chromosomal translocations and viral infections are now known to be associated with certain lymphomas. Various geographic frequencies of T-cell NHL have been documented, ranging from 18.3% of NHLs diagnosed in Hong Kong to 1.5% in Vancouver, British Columbia, Canada. This may in part reflect increased exposure to pathogenic factors such as human T-cell leukemia virus-1 (HTLV-1) and Epstein-Barr virus (EBV) in Asian nations.(8) The median age at presentation is 55 years. Patients present with lymphadenopathy (72%), skin lesions (53%), hepatomegaly (47%), splenomegaly (25%), and hypercalcemia (28%).(9)

Cellular immunosuppression is common, and a significant minority of patients may have concurrent strongyloides infection. (7)

### DESCRIPTION OF THE CASE

The patient was 50 years old man with obviously enlarged cervical and axillar lymph nodes from January 2006. Multitude non-painful red skin nodules appeared a month later on the trunk. (fig1)

fig. 1. Skin nodules



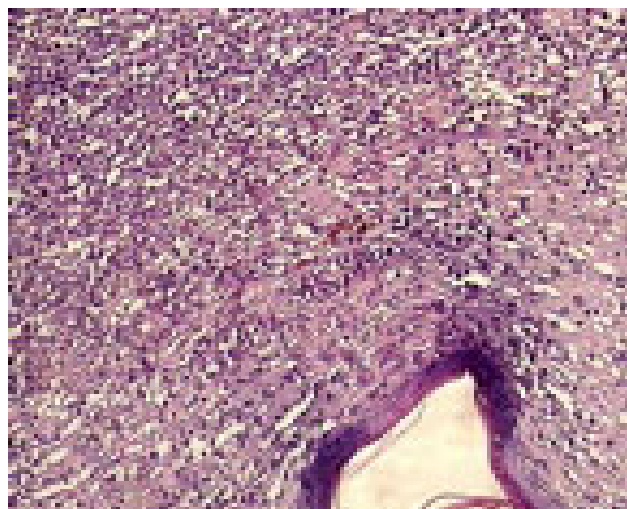
Weakness, loss of weight (~6 kg) and fever up to 38°C attended this period. Physical examination revealed many smooth red-violet nodules 0.5 cm to 5 cm in size disseminated on chest, abdomen and back region.(fig. 2)

**fig. 2.** Red-violet nodule on axillar area



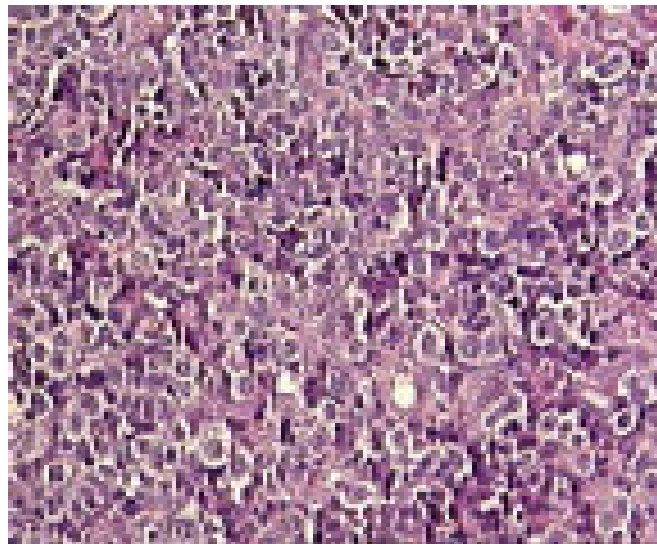
The lymph nodes were enlarged as follows: cervical 4/2 cm, axillar 8/5 cm, inguinal 8/4 cm, no painful and no ulcerated. Skin biopsy (№:2477, 78/2006) from lesion on chest area was performed. The biopsy specimen was processed with routine and immunohistochemical techniques. A massive dermal infiltration consisting of large lymphoid cells with pleomorphic or multiple prominent nuclei and abundant cytoplasm was found by staining with hematoxyline-eosin (HE). Some tumor cells showed lymphomatoid-like morphology, while the others are were anaplastic. Epidermotropism was not seen. (fig3)

**fig. 3.** Skin biopsy from chest area- dermal infiltration with pleomorphic lymphoid cells without epidermotropism (HE x40)



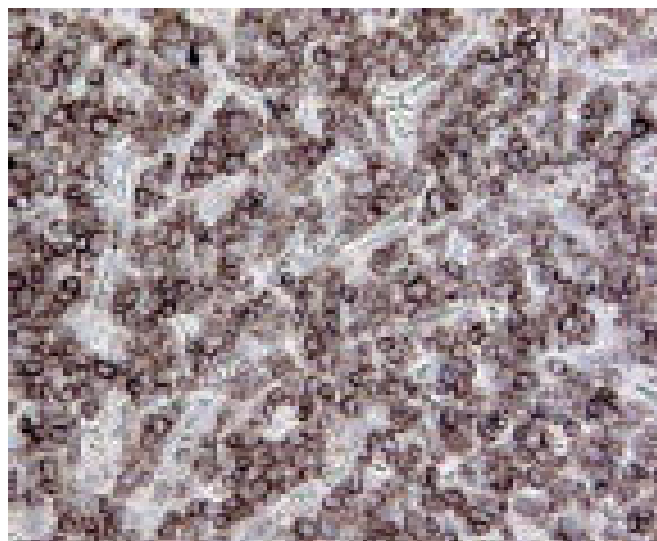
Lymph node biopsy (?;2479-81) from axillar region revealed changes corresponding to T-cell non-Hodgkin lymphoma. (fig. 4)

**fig. 4.** Lymph node biopsy: large anaplastic lymphoid cells (HE x100)



Immunohistochemical examination of skin and lymph node specimens with CD3 and CD30 markers determined CD30 positive anaplastic (more than 30% of tumor cells was CD30+) large cell lymphoma (CD30+ALCL).(fig.5)

**fig. 5.** |Lymph node biopsy : CD30+ positive anaplastic lymphoid cells



The tumor infiltration of marrow was excluded by bone marrow trepan biopsy (№2335/06).

Computer tomography findings included enlarged

lymph nodes and liver changes that suggested tumor infiltration. Numerous lymph nodes - axillar (43/33 mm), paraaortal (20 mm), ad portam hepatic (20 mm) were seen increased in size. Many rounded hypo-echoic zones were detected in the two lobes of hepatic parenchyma. Diagnosis peripheral T-cell anaplastic non - Hodgkin lymphoma, primary systemic, with cutaneous involment was assessed on the base of clinical, histopathologic and immunohistochemical characteristics.

After precise estimation of general condition of the patient we prescribed cytostatic therapy as follows: farmorbicin 14 mg i.v, vinlastin 10 mg i.v, bleomycin 15 mg i.v, dacarbasin 600 mg i.v.

The skin lesions resolved two weeks after first course of cytostatic infusion.(fig6)

**fig. 6.** Resolved skin nodules



The control computer tomography registered disappearance of tumor infiltrations of the liver. Three mounts af-

ter chemotherapy no relapses were registered.

## DISCUSSION

Anaplastic large-cell lymphoma (ALCL), primary systemic type, accounts for approximately 2% to 3% of all NHLs.(6)

We defined our patient in this group because more of than 30% CD30+ anaplastic lymphoid cells were registered and primary systemic nodal and extranodal involvement was available.

Patients with CD30+systemic ALCL are usually systemically unwell with weight loss and other symptoms. Cutaneous lesions may develop at a relatively late stage in disease progression. Crops of large painful ulcerated lesions may develop rapidly, and there is usually palpable lymphadenopathy and hepatosplenomegaly.

ALCL may be divided in part based on the expression of the tyrosine kinase anaplastic lymphoma kinase (ALK). When heterogeneous patient populations are analyzed, the prevalence of ALK positivity in patients with primary systemic ALCL is 50% to 60%.(3,4)

The determination of ALK positivity is important because it denotes a significant favorable prognosis, with reported 5-year OS rates of 79% in contrast to 46% for patients with ALK-negative ALCL. (4)

These patients have a poor outlook. A small series of 11 patients reported by the Dutch Lymphoma Group reported a temporary complete remission in two of seven patients given systemic chemotherapy, but subsequently six patients died within 13 months. Combined chemotherapy and radiotherapy are appropriate.(2)

Our case illustrates even in secondary cutaneous lymphomas, skin manifestations may be the first sign of systemic disease, and a diagnosis may be achieved on examination of specimens of a cutaneous lesion.

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