Rituximab for primary cutaneous large B-cell non-Hodgkin's lymphoma of the scalp

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SUMMARY

A 46-year-old man with a primary cutaneous large B-cell non-Hodgkin's lymphomas is reported. His mother died of gastric lymphoma and his sib brother is 20 years in a remission of T-cell lymphoma. He noticed the appearance of localized baldness and rash of the scalp 16 years before a hematological diagnosis was made. Diagnostic procedures performed in 2006 demonstrated progressive disease with crusted skin nodules (7x7.2cm) which exuded serous fluid. Histopathologcal and immunohistochemical results suggested the diagnosis of a primary cutaneous large B-cell non-Hodgkin's lymphoma. The patient was treated with rituximab and chemotherapy (protocol R-CHOP) and achieved a complete remission. A rather protracted indolent phase of disease, the familial history of lymphoma, and an excellent response to immunochemotherapy contributed to an unusual presentation of this patient's disease.

Key words: *Antibodies, Monoclonal; Lymphoma, Large Cell, Diffuse; Lymphoma, Non-Hodgkin; Scalp*

INTRODUCTION

Primary cutaneous non-Hodgkin's lymphomas (PCNHL) are a heterogeneous group of lymphoproliferative disorders, characterized by skin involvement without signs of systemic disease at initial presentation (1). PCNHL usually have an indolent course with rare involvement of extracutaneous sites (1). The new WHO/EORTC classification of primary cutaneous lymphomas proposes subtypes of T-cell and natural-killer (NK)-cell neoplasms, mature B-cell neoplasms, and immature hemopoietic malignancies (2). There are no randomized studies about treatment of PCNHL, so decision depends on individual case, on its histology and includes radiotherapy, surgical excision, combination chemotherapy, and combined modality regimens (3,4). We present a patient with a PCNHL of the scalp successfully treated with immunochemotherapy.

CASE REPORT

A 46-year-old man noticed appearance of regional baldness and local skin rash and itching of the scalp 16 years before presentation. No interim examination was performed until in January 2006 when his complaints increased with an appearance of lumps, purplish in color together with skin thickening and crusts exuding serosal liquid at the occipital and parietal areas of the scalp with hair loss on the involved skin (Figure 1).

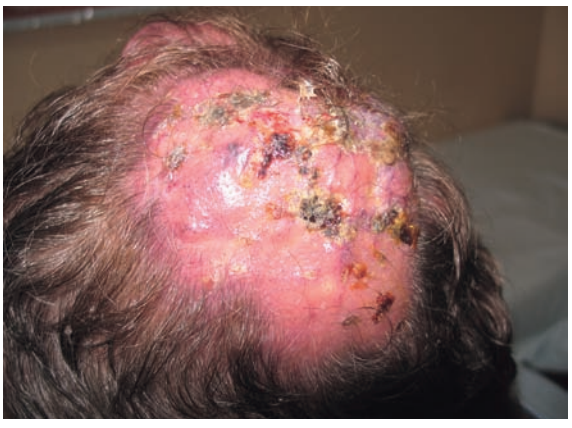

Figure 1. Multiple crusted nodules on parietal and occipital areas of the patient's scalp

There was no regional lymphadenopathy. Treatment with corticosteroids had no effect. In April 2006 a skin biopsy of the scalp lesion was done. Histological finding showed lymphocytic infiltration suggestive of malignant pseudolymphoma. A repeat biopsy was made in another institution in July the same year. It showed the histology suggestive of follicle-center-cell lymphoma with a significant admixture of large cells. Treatment with chlorambucil had no effect so that dissatisfied patient decided to consult in our institution for the first time. The bone marrow biopsy, computed axial tomography of the chest, abdomen, and pelvis were negative for systemic lymphoma involvement. Tomographic scan of head except presence of tumorous mass in soft tissue of the scalp was normal. In standard laboratory findings we noticed leukocytosis $29x10^9$/l (segmented 69%, lymphocytes 20%, monocytes 11%), fibrinogen 7.76 g/l, and LDH 680 U/l (normal values 313-618 U/l). A specimen from repeated biopsy was examined and completed with immunohistochemistry. Histopathology showed dermal lymphoid infiltrates with numerous centroblasts, immunoblasts and centrocytes (Figure 2).

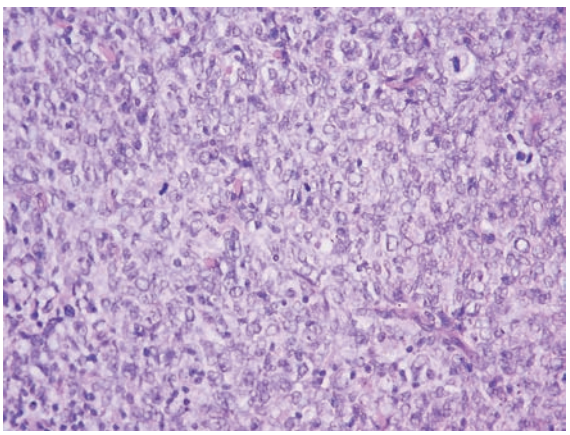

Figure 2. Histology picture of tissues section (May-Grinvald Giemsa) staining x 400

By immunohistochemistry neoplastic cells were: CD20+, CD79alfa+, bcl-2-, CD30-, CD3-, CD5-, bcl-10-. These findings were consistent with a diagnosis of DLBCL according to Revised European-American classification of Lymphoid Neoplasms/World Health Organization (WHO) (5) The REAL/WHO

classification was equivalent to diagnosis of indolent primary cutaneous follicle-center-cell lymphoma (PCFCCL) according to European Organization for Research and Treatment of Cancer (EORTC) Classification (6,7). The patient was treated with protocol R-CHOP (rituximab 800 mg, doxorubicin 90 mg IV, on day 1, cyclophosphamide 1400 mg IV. on day 1, vincristine 2 mg IV, day 1, and prednisone 100 mg from 1 to 5 days). He received 8 cycles with remarkable local response. The follow-up skin biopsy showed the normal skin histology without any lymphomatous infiltration. Systemic investigation including bone marrow biopsy, computed tomographic scan of the chest, abdomen, and pelvis were normal.

DISCUSSION

Primary cutaneous non-Hodgkin's lymphoma is limited to the skin without extracutaneous involvement at presentation. It accounts for 5% of all non-Hodgkin's lymphomas. Approximately 10% of systemic B-cell lymphomas secondarily involve the skin. Systemic dissemination was excluded in our patient after clinical and laboratory examination were made. The absence of overexpression of the bcl-2 protein further supported the diagnosis of primary cutaneous disease. In contrast to nodal lymphomas, their diffuse large-cell variants do not behave particularly aggressively. The patient had prolonged, indolent course of disease.

The treatment of PCNHL has varied over the years depending on risk assessment according to histological subtypes and published prognostic criteria. It has included radiotherapy, surgical excision, combination chemotherapy or combined modality regimens (3,8). Radiotherapy alone has been used in patients with localized B-cell PCNHL with the relapse rates ranging between 32% and 100% (3,9-11). There are reports of intralesional administration of interferon alfa, cisplatin and bexarotene (tegretin) (11,12). Zenone et al. presented one patient who had complete remission with intralesional interferon alfa (11). Bexarotene applied locally or in form of gel has shown results in the treatment of T cell lymphoma, acquired immunodeficiency Kaposi-sarcoma and one case diffuse large B-cell of the scalp (11-14).

Systemic chemotherapy including doxorubicin, cyclophospahmide, vincristine and prednisone as monotherapy or in combination as protocol COP (cyclophospahmide, vincristine and prednisone) or CHOP (doxorubicin, cyclophospahmide, vincristine and prednisone) achieved response in 98% but relapse rate was 33% (3,12,15). A multicenter prospective clinical study of 49 PCNHL patients with combination chemotherapy reported event-free survival of 50% at 5 years after treatment (16). Combined modality treatment with local radiotherapy and doxorubicin- containing regimens led to a 12-year progression-free survival in PCNHL, Ann Arbor stage I in 78% patients (10).

In literature, there are only a few cases regarding a systemic treatment with rituximab alone or in combination with chemotherapy, mostly in patients with relapsed disease (17) with variable responses depending on histology, stage of disease, and if the treatment was performed with rituximab alone or in combination with chemotherapy (17). This is the first report of treatment of primary cutaneous lymphoma of scalp with rituximab in combination with chemotherapy with 100% response.

In summary, we presented a patient with a primary cutaneous lymphoma involving scalp with a long, indolent, course and an excellent response to immunochemotherapy and a family history of patient's mother dying of lymphoma of the stomach and his sib brother being in a long remission of T cell lymphoma.

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Conflict of interest

We declare no conflicts of interest.

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