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Intravascular large B-cell lymphoma with prominent cutaneous manifestation – case report

Case report

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Abstract: Intravascular large B-cell lymphoma (IVLBCL) is a rare subtype of extranodal diffuse large B-cell lymphoma (DLBCL) characterized by selective growth of neoplastic cells within the vascular lumen. IVLBCL involves all types of organs and mostly is associated with poor prognosis, but patients with cutaneous variant have significantly better survival. In this article we report a case of 80-year-old woman with prominent cutaneous manifestation of intravascular large B-cell lymphoma.

Keywords: *Intravascular large B-cell lymphoma • Cutaneous variant*

1. Introduction

Inrtravasular large B-cell lymphoma (IVLBCL) was first reported in 1959 by Pflegerand Tappeiner as “angioendotheliomatosis proliferans systemisata” [1]. According to the current WHO classification, IVLBCL is defined as an extranodal diffuse large B-cell lymphoma characterized by the proliferation of lymphoma cells within the lumina of vessels, especially capillaries. It typically occurs in elderly patients. IVLBCL is characterized by the absence of marked lymphoadenopathy and the usually aggressive clinical behavior. It results in the delay of timely and accurate diagnosis and fatal complications. This lymphoma subtypes involves all types of organs, such as skin, lung, adrenal gland, kidney, liver, spleen, thyroid, gastrointestinal tract, bone marrow and central nervous system (CNS) [2-8]. The clinical manifestations differ between Asian and European countries. In Asia, IVLBCL predominantly accompanies a haemophagocytic syndrome, without skin and CNS involvement (“Asian variant”). In Europe, IVLBCL mostly involves CNS and skin with single or multiple malignant lesions without systemic diseases (“cutaneous variant”). In this article we present a case of IVLBCL with prominent skin manifestation.

2. Case report

A 80-year-old woman presented with 3-month history of progressive skin lesion mainly on her legs. She complained of weight loss and night sweating. Her medical history was significant: hypertension, ischemic heart disease, chronic heart failure in stage III/IV according to New York Heart Association (NYHA). Physical examination showed diffuse skin telangiectasias, associated with oedema of subcutaneous tissue located mainly on legs and abdomen (Figure 1). A skin biopsy from the left leg was taken. Histological examination revealed increased number of dilated vessels in the dermis. The vessels were filled with large, atypical cells (Figure 2). Immunohistochemistry showed that the intravascular atypical cells were positive for CD20 (Figure 3), Bcl-2 and negative for CD3. The Ki67 was 70%. Blood

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Figure 1. Skin lesions at the time of diagnosis

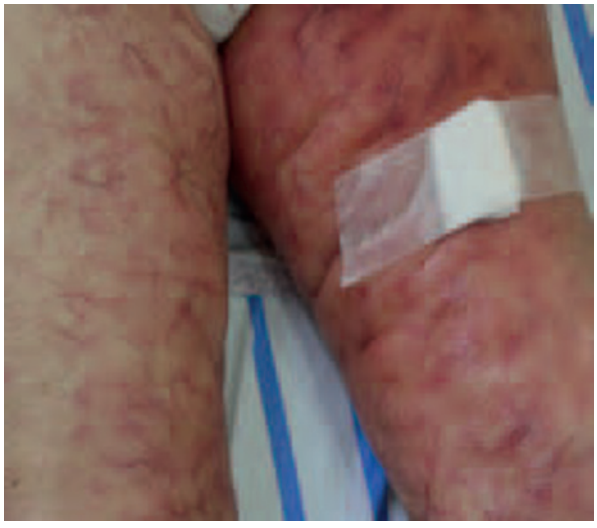


Figure 2. Intravascular large B-cell lymphoma – hematoxylin and eosin stain (original magnification x 600)

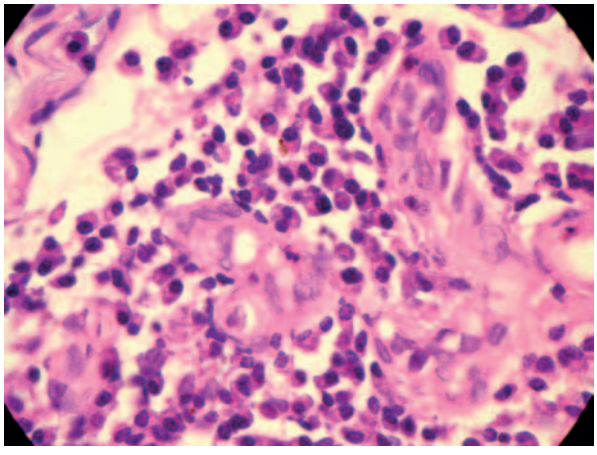
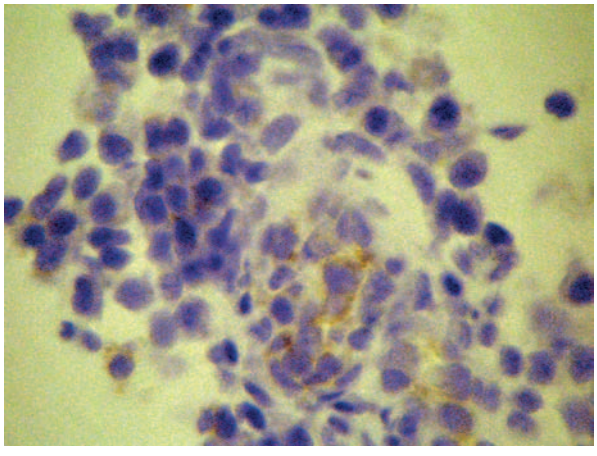


Figure 3. Intravascular large B-cell lymphoma - immunostaining for CD 20 (original magnification x 600)



analysis showed a normocytic anemia (hemoglobin 8,9 g/dl), an elevated lactate dehydrogenase (LDH 471 U/l), creatinine (1,73 mg%) and CRP (62 mg/l). Other laboratory findings were within normal ranges. Imaging studies using X-ray of the chest, cardiac and abdominal ultrasound and CT of the abdomen detected fluid in the right pleural cavity and pericardial sac, hepatosplenomegaly and no lymphadenopathy. Patient did not consent to bone marrow aspiration and biopsy. Based upon these features, IVLBCL in stage IV B according to Ann Arbor classification was diagnosed. International Prognostic Index (IPI) was high. The patient was initially treated with combination of anti-CD20 antibody rituximab (375 mg/m^2 day 1) and CVP (cyclophosphamide 750 mg/m^2 day 1, vincristine 2 mg day 1 and prednisone 100 mg on days 1-5) therapy without anthracyclines because of age and comorbidities. Six courses of chemotherapy successfully improved the skin lesion and there was no fluid in the right pleural cavity, pericardial sac and no hepatosplenomegaly. Complete remission was achieved. The patient was remained progression-free during 12 months after initiation of treatment.

3. Discussion

IVLBCL is a rare subtype of extranodal DLBCL characterized by the presence of lymphoma cells only in the lumina of small vessels, particularly capillaries. Based on the small number of cases reported in the literature, no distinctive epidemiological features have been identified. This lymphoma subtype is usually widely disseminated in extranodal sites at presentation (CNS, skin, lungs, kidneys, adrenals). In general this is an aggressive lymphoma with the poor clinical behavior (3 –yr survival less then 22%) [4]. Up to now, predictive factors that are useful for risk stratification of patients have not been established. Many factors can explain the poor prognosis of this type of lymphoma: (1) IVLBCL is difficult to diagnose because of the peculiar intravascular localization of lymphoma cells or the lack of evidence of lymphoma tumor, so chemotherapy is therefore delayed; (2) Mostly patients are elderly and have poor performance status. Skin manifestations are described by a variety of different lesions including diffuse erythematous streaks, purpuric macules and plaques, livedo-like erythema and telangiectasias like in our case [9]. Patients with isolated “cutaneous variant” are mostly females of younger age with good performance status, normal leukocyte and platelet counts and have a better survival rate than patients with other clinical presentations (3 –yr survival 56%) [4,10]. The most effective treatment seems to be the combination

of chemotherapy (CHOP) with the anti-CD20 antibody rituximab, as all tumour cells express the CD20 antigen [11,12]. Shimada K et al. showed that progression-free survival (PFS) and overall survival (OS) at 2 years in patients receiving chemotherapy with rituximab were 56% and 66% respectively. In patients treated with chemotherapy without rituximab, PFS and OS at 2 years were 27% and 46%, respectively [13]. Ferreri AJ et al. demonstrated that CR rates and survival outcomes were significantly higher in the rituximab-treated groups [14]. However, the outcomes of patients with cutaneous variants were not separately described. In conclusion, early diagnosis and treatment is necessary in case of IVLBCL especially in high-risk patients as defined by Masaki Y et al. [15].

4. Summary

We report a case of intravascular large B-cell lymphoma with prominent cutaneous manifestation. Our patient had a typical clinical features characteristic for this lymphoma: older woman with poor performance status, diffuse skin teleangiectasias, no lymphadenopathy, normal leukocytes and platelets level and elevated LDH. The diagnose was confirmed by histological examination of skin, where atypical lymphoid cells CD20 (+) was found in the lumina of the vessels. The patient was successfully treated with rituximab-chemotherapy and remained progression-free during 12 months from the initiation of treatment.

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