The World Health Organization (WHO) classification of haematopoietic tumours defines intravascular large B-cell lymphoma (IVLCL) as an extranodal, diffuse, large B-cell lymphoma characterized by the presence of neoplastic lymphocytes only in the lumina of small vessels, particularly capillaries (1). IVLCL has two clinical subtypes: Western variant (classic type) and Asian variant (haemophagocytosis-related type) (2). Classic type IVLCL, which occurs mostly in patients diagnosed in Western countries, displays a relatively high frequency of central nervous system and skin involvement (3). In contrast, Asian variant patients preferentially show haemophagocytotic syndrome (HPS), bone marrow involvement, fever, hepatosplenomegaly, and thrombocytopaenia (4). This difference may stem from ethnic differences associated with the production of inflammatory cytokines: soluble interleukin-2 receptor (sIL-2R) levels are significantly higher in patients with haemophagocytosis-related IVLCL than in patients with classic IVLCL (5). In a recent analysis of patients with IVLCL in Asian countries, all cases of CD10-negative IVLCL were categorized as non-germinal centre types (6). By comparison, 20% of classic IVLCL cases were classified as germinal centre B type in an immunophenotypic analysis of cases. In Japan, CD5-positive IVLCL was associated with a higher prevalence of marrow/blood involvement and thrombocytopaenia and a lower frequency of neurological abnormalities among CD10-negative patients (6, 7). Haemophagocytosis-related IVLCL patients have not only been reported in Asian countries; a few cases have been described in Western countries (8). Cutaneous involvement is rare in IVLCL in Asian countries; only a few cases of cutaneous variant have been reported in Japan (9). We describe here a rare case of a Japanese patient with IVLCL with associated HPS and erythema.

CASE REPORT

A 79-year-old Japanese woman was referred to us from another hospital with a fever of unknown origin that had begun one month previously. The multiple, scattered erythema patches appeared on her trunk and thighs at the first examination (Fig. 1). A skin biopsy specimen demonstrated the presence of atypical, large lymphoma cells in thin-walled and ectatic vessels of the dermis and subcutaneous tissues (Fig. 2a). Immunohistochemical staining with antibodies to CD20 and CD79a was positive (Fig. 2b). CD3 and CD5 were negative. These results led us to a diagnosis of IVLCL. Laboratory studies revealed mild anaemia (haemoglobin 10.5 g/dl), thrombocytopaenia (platelets 73 × 10^6/ml), and high serum lactate dehydrogenase (1296 IU/l), ferritin (1540 ng/ml; normal < 138 ng/ml), sIL-2R (6779 U/ml; normal < 587 U/ml), and C-reactive protein (17.2 mg/dl; normal < 0.3 mg/dl). A bone marrow biopsy specimen showed mild haemophagocytosis (Fig. 3) and clustering of tumour cells without chromosome abnormalities. Whole-body computerized tomography revealed hepatosplenomegaly, but no mass formation in any other organs. The fever of unknown origin, anaemia, thrombocytopaenia, high serum lactate dehydrogenase, ferritin, and sIL-2R levels, as well as the presence of mild haemophagocytosis and hepatosplenomegaly and lack of masses in other organs, are specifically associated with HPS (10). These results fulfilled the diagnostic criteria of haemophagocytosis-related IVLCL (2, 4). The patient was given
failure are associated with poor prognosis in patients with this lymphoma. The combination of rituximab and anthracyline-based chemotherapy could have a positive impact on survival in patients with IVLBCL (5). It has been suggested that chemotherapy plus autologous stem cell transplantation may improve patient outcome (2). Organ biopsies are mandatory for the accurate diagnosis of IVLBCL. Timely and accurate diagnosis is extremely important for patients with this disease, because appropriate treatment can improve clinical outcomes. However, no standard procedure for the accurate diagnosis of IVLBCL has been established (9). We consider that observation of skin eruptions and analysis of skin biopsy samples can be useful for making a diagnosis at an early stage in both classic and haemophagocytosis-related IVLBCL. This paper is the first case report of a skin eruption with haemophagocytosis-related IVLBCL.

REFERENCES


Fig. 3. Bone marrow smear showing a large haemophagocytic histiocyte with cytoplasmic vacuoles (Giemsa stain ×300).