

LYMPHOGRAPHIA NON-HODGKIN'S LYMPHOMA IN A PATIENT WITH OSTEOPETROSIS

H. Shibuya, T. Suzuki, S. Matsubara, S. Suzuki

Department of Radiology, Tokyo Medical and Dental University, Bunkyo-ku,
Tokyo, Japan

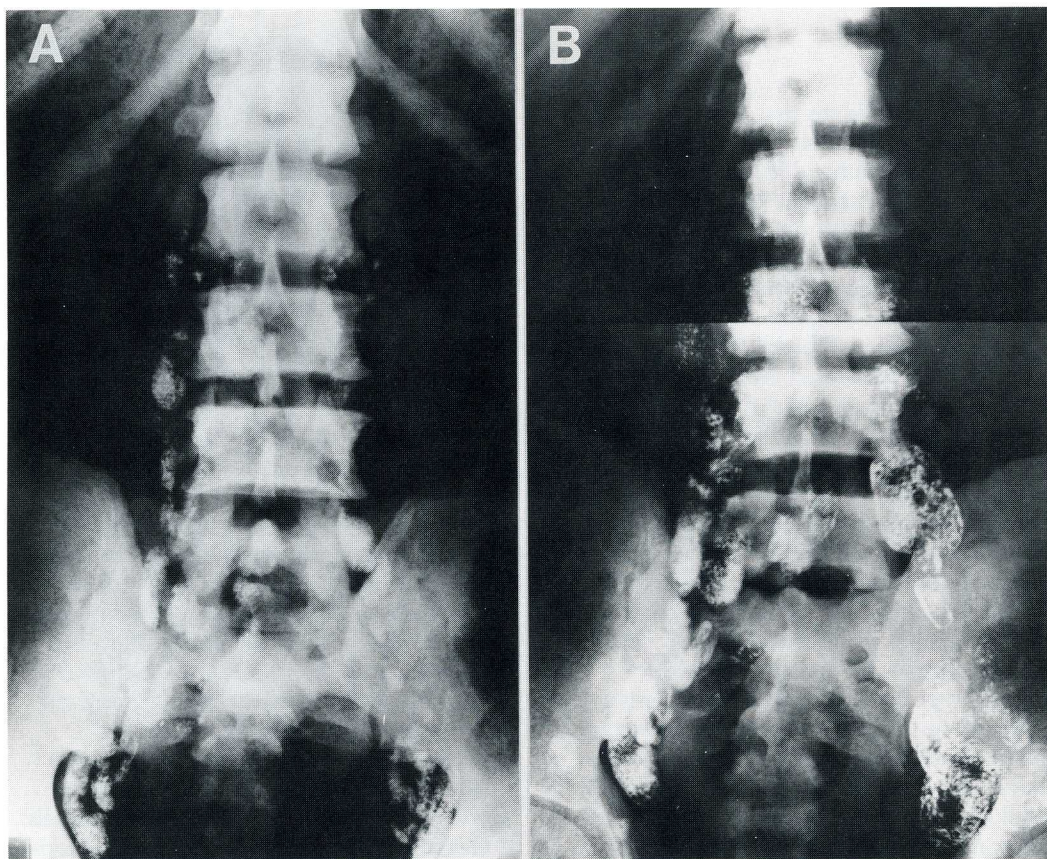


Fig. 1: 52-year-old with non-Hodgkin's lymphoma and dominant form of osteopetrosis. Slightly enlarged and foamy lymph nodes are visible in the paraaortic, iliac and inguinal regions, which on histology showed only nonspecific reactive change (A). Three years later,

however, huge foamy nodes with filling defects are seen on reopacification lymphangiography in the paraaortic and iliac regions (B). Histology confirmed relapse of non-Hodgkin's lymphoma.

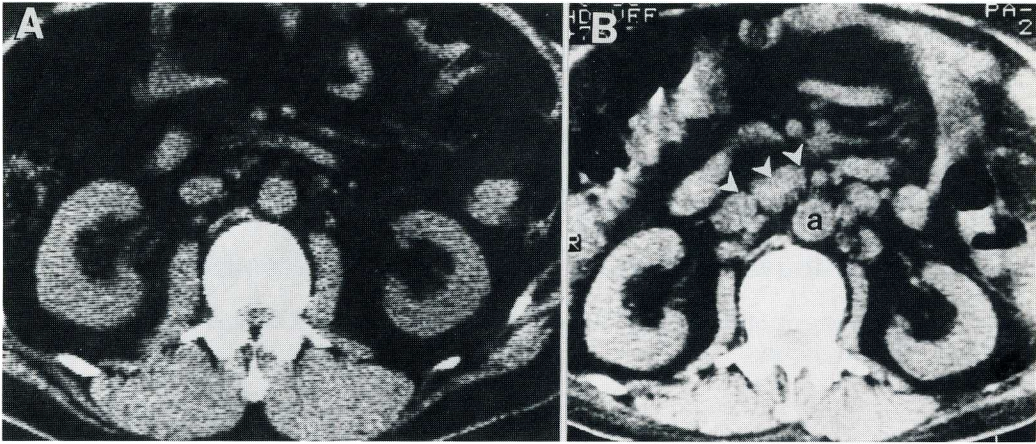


Fig. 2: Absence of enlarged paraaortic lymph node on CT (A), but three years later (B) several enlarged

lymph nodes (arrowheads) are seen adjacent to the aorta (a) (compare with Fig 1B).

CASE REPORT

A 52-year-old man first visited the Tokyo Medical and Dental University Hospital in November 1982 with right cervical lymph node swelling of three months duration. After excisional biopsy, histology demonstrated diffuse large cell non-Hodgkin's lymphoma. Physical examination revealed no other palpable mass or lymph nodal enlargement. Bipedal lymphangiography disclosed enlarged lymph nodes with a fine granular pattern bilaterally in the inguinal, iliac and lumbar regions (Fig. 1A). Abdominal computed tomography (CT) and ultrasonography revealed no lymph nodal enlargement or hepatosplenomegaly (Fig. 2A). After biopsy of the lymphangiographically enlarged inguinal node, histology revealed nonspecific reactive change without lymphoma. Chest x-ray and bone radiographs showed increased bone density, and skeletal images indicated equivocally increased radioactive uptake in the ribs, spine, pelvic and facial bones. Iliac bone biopsy revealed on histology increased lamellar bone obliterating the marrow space and excluding the blood-forming marrow cells consistent with the dominant form of osteopetrosis (Fig. 3). Laboratory data included a decreased peripheral blood leukocyte count (average of $2000/\text{mm}^3$) but



Fig. 3: Iliac bone biopsy demonstrating increased lamellar bones obliterating the marrow space (x67) consistent with osteopetrosis.

normal erythrocytes and thrombocytes.

The patient was treated as Stage I non-Hodgkin's lymphoma with megavoltage x-ray therapy to the neck. Leukopenia persisted but his course was uneventful until two years later, when he developed fever to 38°C , and three months later, generalized lymphadenopathy. Repeat lymphangiography revealed foamy, thickened nodes bilaterally in the inguinal, iliac and para-aortic regions, some of which were markedly enlarged with filling defects (Fig. 1B). Biopsy of a palpable lymph node revealed large-cell non-Hodgkin's lymphomas on histological examination. Splenomegaly and intraabdominal lymphadenopathy were now also noted on CT and ultrasonography (Fig. 2B).

He was then treated with multimodality chemotherapy but his general condition worsened, and he died three months thereafter.

COMMENT

The benign, dominant form of osteopetrosis often remains clinically asymptomatic, with approximately half of patients diagnosed incidentally (1). In the recessive form, exclusion of the marrow cells by persistent enchondral tissue is associated with hematologic abnormalities and lymph node enlargement (2). In our patient with the dominant form of osteopetrosis, however, leukopenia and reactive lymph nodal hyperplasia were encountered during the course of "staging" for non-Hodgkin's lymphoma.

Lymphangiographic abnormalities that mimic malignant lymphoma include reactive hyperplasia, dysgammaglobulinemia, paraproteinemia, Waldenstroem's macroglobulinemia, osteomyelitis, Whipple's disease, and granulomatous disease (3,4). Pedal lymphography in our patient with both the dominant form of osteopetrosis and early stage of non-Hodgkin's lymphoma was difficult to interpret. Lymphangiography initially showed an enlarged, coarse granular lymph node pattern without filling defects. These pathologically enlarged lymph nodes were relatively thin on computed tomography (CT) and ultrasonography, and histology revealed only nonspecific reactive change. Huge lymph nodes with filling defects were found, however, in the reopacification lymphography two years later after relapse of non-Hodgkin's lymphoma, and confirmed by computed tomography. Although non-Hodgkin's lymphoma in a patient with osteopetrosis is extremely rare, extra careful diagnostic evaluation is necessary for accurate "staging" to avoid overlooking occult neoplasm masked by marrow obliteration and lymph nodal enlargement characteristics of the underlying bone disease. On the other hand, diffuse large-cell non-Hodgkin's lymphoma is probably a systemic ailment of neoplastic B-cells despite seem-

ingly localized disease, and intense multimodality chemotherapy combined with radiotherapy is probably appropriate at the outset (5).

REFERENCES

1. Greenfield, GB: Osteopetrosis. Greenfield, GB (ed): Radiology of Bone Diseases. Lippincott, Phil. and Toronto, 1975, p. 301.
2. Shapiro, F, MJ Glimcher, ME Holtrop, et al: Human osteopetrosis. J. Bone and Joint Surg. 62 (1980), 384.
3. Parker, BR: Lymphographic appearance of benign conditions simulating lymphoma. Radiology 111 (1974), 267.
4. Gold, RH, FR Margolin: Lymphographic manifestations of Whipple's disease simulating malignant neoplasm. Radiology 98 (1971), 117.
5. DeVita, VT, GP Garellos, B Chabnar, et al: Advanced diffuse histiocytic lymphoma, a potentially curable disease. Lancet 1 (1975), 248.

Hitoshi Shibuya, M.D., D.M.S.
Department of Radiology
Tokyo Medical and Dental University
5-45, Yushima 1-chome
Bunkyo-ku, Tokyo 113, Japan