European Journal of Cancer Vol. 31A, No. 3, p. 423, 1995.

0959-8049/95 $9.50 + 0.00

0959-8049(94)00501-X

Hepatic Angiosarcoma in a Patient With Essential Thrombocythaemia and Budd–Chiari Syndrome

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HEPATIC ANGIOSARCOMA is a rare tumour, accounting for less than 2% of all hepatic tumours [1]. Various environmental agents have been reported to be associated with this neoplasm, including thorotrast, arsenic and vinyl chloride [2]. We describe the case of a patient who developed essential thrombocythaemia during childhood, Budd–Chiari syndrome 6 years later and hepatic angiosarcoma after another period of 6 years. This is the first observation of angiosarcoma occurring in a patient with chronic visceral venous stasis.

A 24-year-old female was admitted in September 1991 for severe abdominal pain and fever. At the age of 12, she had presented with splenomegaly and thrombocytosis, and bone marrow examinations confirmed the diagnosis of essential thrombocythaemia. Platelet count reached 1.000 giga/l, but the parents refused anti-mitotic therapy and the child received aspirin only. In April 1986, she presented with Budd–Chiari syndrome and underwent shunting with a mesenterico-caval anastomosis which allowed partial regression of the liver enlargement. Anti-mitotic therapy was initiated with hydroxyurea, and the patient remained asymptomatic. In September 1991, she presented with severe abdominal pain and fever, and physical examination revealed marked increase of the liver and bilateral pleural effusion. Computerised tomography of the abdomen showed multiple hypodense areas in the liver with spontaneously hyperdense zones. Magnetic resonance imaging of the liver (Figure 1) showed hypointense T1-weighted images and hyperintense T2-weighted images, with gadolinium enhancement. A histological analysis of one of the hypodense lesions was performed by needle biopsy and showed an infiltration by sheets of poorly differentiated neoplastic cells with broadly anastomosing vascular channels, allowing the diagnosis of angiosarcoma. Tumoral cells were strongly stained with anti-smooth muscle alpha-actin antibody, but reactivity for factor VIII-related antigen could not be performed. Cytological analysis of the pleural effusion also demonstrated the presence of malignant cells. The patient received 6 courses of a MAID-type regimen (mesna, doxorubicin, ifosfamide, dacarbazine) [3], which allowed rapid resolution of the pain and fever and a partial reduction of the liver enlargement. The patient then received intensive chemotherapy with etoposide, ifosfamide and cisplatinum in April 1992 with autologous bone marrow transplantation. Unfortunately, the disease progressed in June 1992 and the patient died 4 months later.

Figure 1. Abdominal magnetic resonance imaging transversal scan performed at diagnosis. The liver is globally enlarged with vast hypodense areas.

Superficial angiosarcomas have been reported in patients with congenital (Milroy's disease) or acquired (Stewart–Treves) chronic lymph oedema [4, 5]. Irradiation-associated angiosarcomas have also been reported and they occur predominantly in superficial soft tissues [6, 7]. Two cases of liver angiosarcomas have been reported in patients treated for Hodgkin's disease by radiochemotherapy, including hepatic irradiation [8]. However, this is the first report of angiosarcoma occurring in a patient with a myeloproliferative disease and/or with Budd–Chiari syndrome. The patient had received for more than 5 years anti-mitotic treatment with hydroxyurea, a drug which has not been reported to be leukaemogenic or carcinogenic. No cases of angiosarcoma have been reported after chemotherapy alone to our knowledge. Finally the patient had, 5 years before, developed Budd–Chiari syndrome. This condition was responsible for chronic venous statis in the liver which may have contributed to the occurrence of sarcoma, as has been described in patients with postmastectomy lymph oedema developing angiosarcoma. We believe that chronic venous statis was the most important factor determining the occurrence of angiosarcoma in our patient.

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Received 18 Aug. 1994; accepted 23 Nov. 1994.

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