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LETTER TO THE EDITOR

Bilateral nephromegaly and acute renal failure in a patient with primary diffuse large B cell lymphoma of the kidneys

Dear Editor,

Only rarely the kidney is the source of the primary manifestations of lymphomas and/or leukemias [1]. Malignant cells can infiltrate nodal or extranodal structures, especially the bone marrow, spleen, and the central nervous system, but tumor infiltration of the kidney may rarely occur [2,3]. A 27-year-old man was admitted to our hospital with fever and malaise in June 2008. On admission his body temperature was 38.9° C and his blood pressure 130/80 mm Hg. Laboratory findings included hemoglobin 9.7 g/dL, hematocrit 29.2%, white blood cell count 9700/mm^3 and platelets 168000/mm^3. Total serum protein was 6.7 g/dL, albumin 3.3 g/dL, blood urea 76 mg/dL, serum creatinine 6.5 mg/dL, uric acid 10.8 mg/dL. Serum sodium was 130 mEq/L, potassium 3.9 mmol/L, chloride 104 mmol/L and lactate dehydrogenase (LDH) 5285 U/L. The erythrocyte sedimentation rate was 65 mm/h, and creatinine clearance 18 mL/min. The patient started hemodialysis and ultra filtration due to generalized edema and acute renal failure. An ultrasound of his kidneys revealed marked bilateral renal enlargement without hydronephrosis. Computed tomography (CT) of the abdomen showed enlarged kidneys with multiple hypodense areas. Chest CT scan showed no parenchymal lesions. Ultrasound-guided tru-cut biopsy of the kidney showed diffuse infiltration of the interstitium by atypical lymphoid cells between glomeruli and tubules, causing severe expansion of inter-tubular spaces with the effacement of normal architecture. The neoplastic cells displayed medium to large size hyperchromatic or vesicular nuclei with prominent nucleoli in some of them. They expressed strongly LCA (leukocyte common antigen), CD79a, CD20, CD19 and CD10 in the immunohistochemical studies, whilst they were negative for CD3, CD43, MPO (myeloperoxidase) and Tdt. Ki-67 proliferative index was around 50%. Bone marrow aspiration and biopsy were normocellular without increased ratio of blasts (<5%). The final diagnosis was diffuse B-cell lymphoma infiltrating both kidneys. Shortly after diagnosis, he was treated with 8 cycles of R-CHOP (rituximab, cyclophosphamide, doxorubicin, vincristine, and prednisolone every 3 weeks). After the first cycle of chemotherapy, his renal function improved significantly, with a serum creatinine level of 1.4 mg/dL, and remained stable to the day of discharge. The kidneys' size improved and the patient did not need dialysis anymore. The patient achieved complete remission and remains so until his last visit in December 2010.

Primary renal non Hodgkin's lymphoma is a distinct pathological and clinical entity which is extremely rare and highly aggressive since it disseminates rapidly from its origin [4]. The kidney does not normally contain lymphoid tissue. Most renal lymphomatous infiltrations from lymphomas of other primary sites are asymptomatic and discovered on staging radiography or at autopsy. The neoplastic lymphoid cells may express both B and T phenotypes and renal involvement is most common in diffuse large B-cell lymphoma [5]. Nephromegaly and acute non-oliguric renal failure is an unusual manifestation of lymphomatous infiltration of the kidney. Diffuse infiltration may compress the renal tubules and microvasculature, and results in intrarenal obstruction and ischemia. The disease may manifest with progressive renal failure of either oliguric or non-oliguric type. Our patient developed acute renal failure with oliguria, diagnosis of lymphoma was made by tru-cut biopsy of the kidneys and he had an excellent response to R-CHOP chemotherapy with no major complications. Chemotherapy resulted in resolution of renal failure; the patient's urine output improved and he did not need dialysis after treatment. Literature data suggest that survival is extremely poor since 75% of patients die in less than 1 year after diagnosis. Prognosis may be improved by early detection of the disease and by administering systemic chemotherapy. If diagnosed early, cure is possible.

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Vitamin D intake may be effective in the management of triple-negative breast cancer

Dear Editor,

Triple-negative breast cancers are defined by lack of expression of estrogen, progesterone and HER-2 receptors. This subgroup accounts for 15% of all types of breast cancer. Since there are no specific-targeted treatment guidelines for this subgroup, triple-negative breast cancer is managed with standard treatment, leading to a high rate of local relapse and systemic dissemination [1]. Checkpoint mechanisms are essential for the maintenance of genomic integrity. In vertebrates when cells experience replication arrest or undergo DNA damage by UV irradiation, the ATR kinase [ataxia telangiectasia mutated (ATM)- and Rad3-related kinase] phosphorylates and activates the checkpoint kinase 1 (Chk1). The activated Chk1 inhibits Cdc25 phosphatases, which control inhibitory phosphorylation sites on cyclin-dependent kinases, the latter being critical regulators of cell cycle transitions [2]. Full activation of Chk1 by ATR requires Claspin, which may act as a scaffolding protein that brings together ATR and Chk1 [3]. A recent study showed that the E2F-regulated gene Chk1 is highly expressed in triple-negative breast carcinomas [4]. Furthermore, Chk1 and Claspin were quickly downregulated in mouse MC3T3-E1 and in mouse mammary carcinoma cells by treatment with 1,25-dihydroxyvitamin D3, which is a known inhibitor of cell proliferation [5]. In the light of the above information, we suggest that vitamin D intake may be effective in the management of triple-negative breast cancer. This proposal should be verified in large clinical trials including patients with triple-negative breast cancer.

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