

Aloe-induced hypokalemia in a patient with breast cancer during chemotherapy

The use of complementary and alternative medicine (CAM) in oncological patients, such as herbal medicine, is common, with a prevalence of ~35%, especially in younger people, female, with high educational level. The sources of information are in large majority patients' friends, family and the media. Side-effects are reported in 4.4% of CAM users and they are all related to ingesting herbs or minerals [1].

Among herbal medicines, aloe vera is used for a lot of diseases on the basis of historical use and anecdotal data, rather than hard evidence [2]. There are reports of allergic contact dermatitis [3], acute hepatitis [4], Henoch–Schonlein purpura [5] and acute renal failure [6], but the actual incidence of side-effects and drug–herb interactions remains largely unknown.

A 59-year-old Caucasian man was followed at our institute for Human epidermal growth factor receptor 2 positive breast cancer.

Breast cancer had been diagnosed in July 2001 and patient had been treated with mastectomy followed by adjuvant radiotherapy and chemotherapy with epirubicin, cyclophosphamide, methotrexate and 5-fluorouracil. For metastatic disease, he had received chemotherapy with trastuzumab and paclitaxel; then, after diagnosis of brain metastasis, he had started treatment with trastuzumab and capecitabine.

In May 2006, the patient was admitted at our department for poliuria and nicturia, without diarrhoea, mucositis and hand and foot syndrome. He was not diabetic and medications taken

at home included capecitabine since December 2005 and 1 l of aloe vera every day in the last 2 weeks. Clinical examination was normal. Laboratory test revealed a severe hypokalemia (2.2 mmol/l) with normal blood counts, sodium, chloride, calcium, creatinine and glucose.

Electrocardiogram and echocardiography showed a normal cardiac function. Level of serum cortisol, aldosterone and adreno cortico tropic hormone excluded the presence of hyperaldosteronism.

We therefore advised the patient to stop aloe vera, as a possible cause of hypokalemia, with rapid resolution. Subsequently, the patient started again chemotherapy with capecitabine and trastuzumab without taking aloe vera and he did not develop hypokalemia anymore.

This is the first report of hypokalemia due to aloe vera during chemotherapy. We think that aloe, as it is a cathartic herb, may increase the intestinal transit time causing hypokalemia.

Our experience emphasises the importance of asking the patients about the use of CAM because they can produce unknown side-effects and drug interaction during chemotherapy.

Z. Baretta*, C. Ghiotto, D. Marino & A. Jirillo

Department of Medical Oncology, Istituto Oncologico Veneto, Istituto di Ricerca e Cura a Carattere Scientifico, Padua, Italy
(*E-mail: zorab82@yahoo.it)

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doi:10.1093/annonc/mdp324