Nasal septum perforation in a breast cancer patient treated with bevacizumab

A 39-year-old woman was diagnosed in January 2009 of a supraclavicular and pulmonary relapse of breast cancer. Two years earlier, in February 2007, she had been diagnosed of a left breast cancer, staged as T2N0M0, negative for both hormone receptors and Her2/neu. After surgical treatment with tumorectomy and axillary lymphadenectomy, she received adjuvant therapy with chemotherapy (six cycles of docetaxel, epirubicin and cyclophosphamide) followed by radiotherapy.

At the time of the relapse, after having discarded any other metastatic site, she was offered to begin chemotherapy with paclitaxel and bevacizumab. She began this treatment in
February 2009, with no adverse effects and excellent compliance. After the third cycle, partial response was confirmed by computerized tomography (CT) and treatment was continued. Partial response was a reduction in the size of the supraclavicular lesion (from 6×5 cm at the beginning of therapy to 4×2 cm after three cycles, together with a reduction in the intensity of positron emission tomography (PET)-CT images), with stabilization of pulmonary nodules (all below 1 cm of size).

In June 2009, in the beginning of the sixth cycle of paclitaxel and bevacizumab, the husband of the patient noted a little hole in the nasal septum of his wife. She had no previous bleeding, pain or local discomfort. The exploration with anterior rhinoscopy revealed a nasal septum perforation of 1×0.5 cm² (Figure 1), with no signs of infection or active bleeding at that moment. A head and neck surgeon recommended no treatment. When the patient was about to receive the first dose of bevacizumab after the discovery of this perforation, results of a PET–CT showed progression of the disease in the supraclavicular nodes, with no other new sites of metastatic spread. We began treatment with cisplatin and gemcitabine in July 2009, and therefore, due to progressive disease, bevacizumab was stopped.

Bevacizumab is an antibody against vascular endothelial growth factor that inhibits angiogenesis by binding to vascular endothelial growth factor receptors (VEGFRs), principally VEGFR-1 and VEGFR-2. The incidence of bowel perforation with bevacizumab is well known, due to the high number of studies analyzing bevacizumab efficacy in colorectal cancer, and it rises up to 0.9% of the patients [1]. Although there are fewer studies in breast cancer with bevacizumab, the incidence of bowel perforation is similar, ~0.8% [1, 2]. As bevacizumab inhibits angiogenesis, endothelial cell proliferation and migration is impaired, resulting in slower wound healing [3].

Association of nasal septum perforation and bevacizumab is rare, although it has been described before in breast cancer patients [4]. The nasal septum is a very vulnerable zone as irritation and mucosal laceration can expose the underlying avascular cartilage. Blood supply for this cartilage depends on the integrity of the mucoperichondrium, and this can be disrupted by the antiangiogenic effect of bevacizumab. There is no clear guideline for the management of this complication. Recommendations are based on hygienic measures, such as avoiding manipulation of the perforation, humidifying air and treating local symptoms with lubrication of the zone and intranasal saline sprays. Due to the increasing number of patients treated with bevacizumab, physicians should be aware of this side-effect related with the use of this antiangiogenic drug.

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