



SKIN CANCER (OTHER THAN MELANOMA)

## A CASE OF MULTIPLE BREAST CANCER SCALP METASTASES AFTER SCALP COOLING FOR ALOPECIA PREVENTION

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**Background:** Chemotherapy-induced alopecia (CIA) is a psychologically distressing consequence of some cancer treatments, especially for women. Scalp cooling is the most widely used and studied measure to prevent alopecia. But authors have expressed their concerns about the risk of scalp skin metastases after cooling. Scalp cooling acts by reducing chemotherapy delivery and/or efficacy in the scalp, so a theoretical increased risk of scalp metastasis is a reason for discussion.

**Observation:** A 75-year-old female with a diagnosis of breast cancer was initially treated with bilateral mastectomy, axillary dissection, radiation therapy and chemotherapy. Systemic treatment consisted of 6 CFM cycles (cyclophosphamide, 5-fluorouracil and mitoxantrone). No scalp cooling was used at this occasion. After 15 years she developed pleural effusion, diagnosed as metastatic carcinoma, suggestive of mammary origin, HER2-negative, estrogen receptor-positive and progesterone receptor-positive. Subsequently, she received 5 cycles of docetaxel, trastuzumab and pertuzumab and used scalp cooling since the first cycle. Four months later, she presented with asymptomatic nodules on her scalp. Clinical examination revealed multiple hardened nodules, of 4 to 8 mm, with a slightly erythematous surface, distributed through the scalp, mainly at the occipital region. Dermoscopic examination demonstrated linear irregular and thin arborizing vessels. Biopsy showed metastatic carcinoma compatible with lobular breast carcinoma origin. After a diagnosis of cutaneous metastasis, her systemic treatment was modified to cisplatin and gemcitabine and scalp cooling was suspended.

**Key message:** Scalp metastases are a rare site of metastatic disease in breast cancer and usually occur following the diagnosis of generalized metastatic disease. An increase in the risk of scalp metastasis with scalp cooling is a reason for discussion, but the current evidence so far does not support this concern. We report a case of scalp metastases after scalp cooling, in a scenario of widespread metastatic disease.

