


Safety and efficacy of scalp hypothermia to prevent chemotherapy-induced alopecia: A study of a scalp-cooling system used in breast cancer women in a Mexican public hospital.

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Background: Hair loss is one of the side effects associated with chemotherapy treatments. It causes emotional disturbances and constantly reminds the patient of the disease. This study analyzed the effectiveness of scalp-cooling system for prevention of alopecia in breast cancer patients. **Methods:** The aim of this study was to examine the efficacy and safety of a scalp-cooling system to prevent chemotherapy-induced alopecia. 68 breast cancer patients receiving neo or adjuvant were included in a nonrandomized pilot study. The Dignicap system consists of a refrigerator unit and a control unit integrated into a mobile cabinet and connected to a tight-fitting cooling cap. Women accepting the scalp-cooling system were compared for alopecia against those who refused group of 68 patients similarly treated. Hair loss in the 136 study patients was evaluated by nurses using World Health Organization (WHO) criteria at each cycle of chemotherapy and photo documentation. Concomitantly, tolerance and side-effects were also recorded in 68 accepting patients. **Results:** Nurses' ratings indicated that hair loss frequency was constantly lower, at each cycle of chemotherapy, in study patients with scalp-cooling system (n = 68) than in those without (n = 68). Differences between the two groups were statistically significant at cycles 1 and 4 (P < 0.05). Scalp cooling was generally very well tolerated; only three of 68 patients discontinued use of the cold cap due to discomfort and no scalp metastasis was observed among the 68 accepting patients followed up. **Conclusions:** This study demonstrates that scalp cooling was an effective and safe method of protection against hair loss caused by chemotherapy. Its routine use as part of neo or adjuvant chemotherapy, especially in cancers with low prevalences of scalp metastasis, should be seriously considered and should be clinically evaluated in a randomized trial and in studies using other chemotherapy regimens to determine optimal temperatures and durations of cooling for maximal efficacy.