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Abstract P1-11-05: Chemotherapy-induced alopecia prevention and effects on quality of life among women with breast cancer: A study of a scalp-cooling system used in a Mexican public hospital

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Abstract

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 and its impact on quality of life (QOL) in this population. Methods: The aim of this study was to examine the efficacy and safety of a scalp-cooling system to prevent chemotherapy-induced alopecia and its impact on quality of life (QOL) in this population. 110 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 100 patients similarly treated. Hair loss in the 210 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 110 accepting patients. The effects of alopecia on various aspects of QOL in breast cancer patients including anxiety and distress, body image, sexuality, self-esteem, social functioning, global QOL was assessed by two questionnaires (EORTC QLQ-C30 and EORTC-QLQ-BR23)

Results: Nurses' ratings indicated that hair loss frequency was constantly lower, at each cycle of chemotherapy, in study patients with scalp-cooling system (n = 110) than in those without (n = 100).Differences between the two groups were statistically significant at cycles 1 and 4 ($P < 0.047$). Scalp cooling was generally very well tolerated; only four of 110 patients discontinued use of the cold cap due to discomfort. Alopecia was considered among the most distressing problems and a trend towards higher well-being was found in successfully scalp-cooled patients, as indicated by a general better health-related quality of life, whereas unsuccessfully scalp-cooled patients reported lowest well-being.

Conclusions: This study demonstrates that scalp cooling was an effective and safe method of protection against hair loss caused by chemotherapy and contributes to the well-being of the patients. Its routine use as part of neo or adjuvant chemotherapy 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.

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