Abstract

Prevention of Chemotherapy-Induced Alopecia Through Scalp Cooling: Experience from an Oncology Day Hospital

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Introduction. Chemotherapy-induced alopecia is one of the most distressing adverse effects experienced by oncology patients and may significantly affect body image, psychological well-being, and adaptation to illness. Paxman Scalp Cooling, through scalp vasoconstriction and reduced follicular metabolism, may represent an effective strategy for preventing this adverse event. The aim of this study was to evaluate the effectiveness and tolerability of scalp cooling in patients undergoing chemotherapy.

Methods. A retrospective internal observational analysis was conducted between November 30, 2023, and November 30, 2025, involving 26 adult patients with solid tumours. Routine clinical data included pre-treatment nursing assessment, counselling, and classification of alopecia as absent, ≤50%, patchy, or complete. Chemotherapy regimens included taxanes, platinum-based agents, cyclophosphamide, and anthracyclines. Treatment success was defined as hair loss ≤50%.

Results. Among the 26 patients, 16.7% experienced no alopecia, 44.4% hair loss ≤50%, 33.4% patchy alopecia, and 5.5% complete alopecia. The success rate among evaluable patients was 61.1%, decreasing to 42.3% in the intention-to-treat analysis because of a discontinuation rate of 30.8%. Discontinuation was mainly related to cooling discomfort, headache, and cervical pain. In most patients, alopecia remained mild to moderate.

Discussion. Paxman Scalp Cooling appears to be an effective and overall tolerable strategy for preventing chemotherapy-induced alopecia. Nursing assessment, standardized monitoring, adherence support, and targeted interventions to reduce discomfort are key components for optimizing the care pathway. Prospective studies using formalized protocols are needed to strengthen these findings.

Keywords: Chemotherapy-Induced Alopecia, Scalp Cooling, Oncology Nursing

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