Digni-T-Uy: Efficacy of DigniCap® Scalp Cooling in Uruguayan Breast Cancer Patients – A Public vs. Private Care Comparison

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Introduction

Chemotherapy-induced alopecia (CIA) is a highly distressing toxicity for patients with early-stage breast cancer, affecting body image, quality of life, and sometimes adherence to curative treatment. Scalp cooling with the FDA-approved DigniCap® system—endorsed by NCCN and ESMO—offers an effective strategy to reduce CIA, yet evidence from Latin America has been limited. This collaborative study presents the first real-world evaluation of DigniCap® in Uruguay, comparing its efficacy, safety, and completion rates between the national public university hospital and private oncology centers. By generating local data, we contribute to a better understanding of scalp-cooling outcomes in diverse healthcare settings and support efforts to improve breast cancer care across the region.

Methods and Materials

This prospective observational cohort included 122 Uruguayan women with early-stage breast cancer who initiated scalp cooling with the DigniCap® system during adjuvant or neoadjuvant anthracycline- and/or taxane-based chemotherapy (March 2022–June 2025). Hair loss was meticulously assessed using Dean's scale, with successful preservation defined as a score ≤2 (≤50% alopecia). Safety, tolerability, patient-perceived hair preservation, and reasons for discontinuation were all thoroughly recorded. The primary analysis compared CIA-prevention rates and discontinuation patterns between the public university hospital (Hospital de Clínicas) and private oncology centers to evaluate the influence of care setting on real-world outcomes.

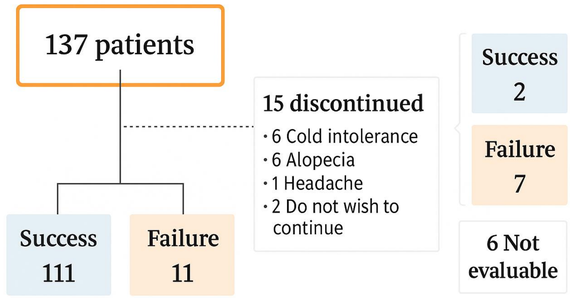


Figure 1. Flowchart of Patients in Scalp Cooling Trial

Results

A total of 122 patients were included, with an overall hair-preservation success rate of 83.6% (Dean ≤2) (Fig.1). Scalp-cooling discontinuation occurred in 17%, mostly due to chemotherapy toxicity, cold intolerance, or device discomfort. Success rates did not differ significantly between public (75%) and private centers (84.9%) among patients who completed cooling (χ^2=1.14, p=0.29) (Fig. 2). However, discontinuation was markedly higher in the public hospital (24.5% vs. 4.1%; χ^2=11.6, p<0.001), indicating the influence of logistical and structural barriers on feasibility. Success across chemotherapy regimens ranged from 78% to 97%, with no statistically significant differences (χ^2=3.69, p=0.45). Adverse events—mainly headaches, scalp discomfort, and cold intolerance—were generally mild, reinforcing the safety of the procedure. Overall, 83.1% of patients completed all planned cycles with DigniCap®, underscoring the feasibility and tolerability of scalp cooling in real-world practice.

Results

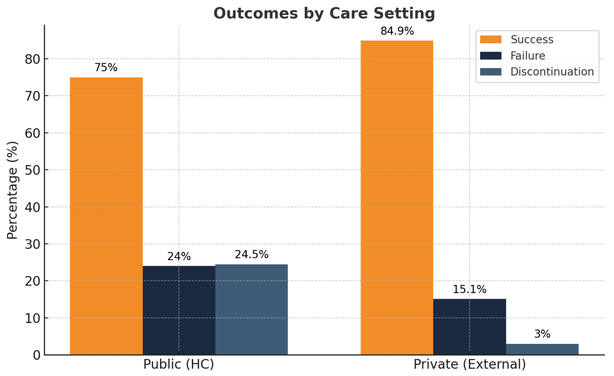


Figure 2. Care Setting Comparison

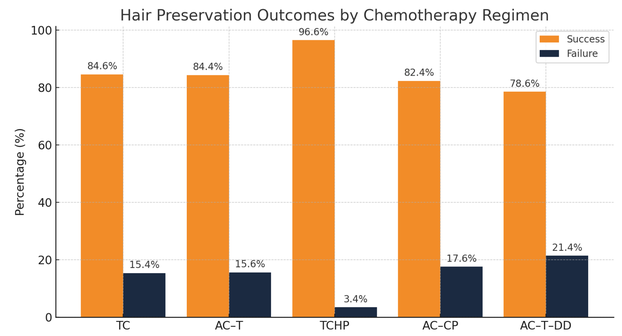


Figure 3. Chemotherapy regimen

Discussion

Chemotherapy-induced alopecia carries a significant psychological burden, and DigniCap® has proven to be a reliable strategy to mitigate it. This prospective Uruguayan cohort confirms the system's effectiveness and tolerability, with hair-preservation outcomes consistent with international real-world data. Most patients achieved meaningful preservation, reinforcing the value of scalp cooling. Although adverse events, mainly cold intolerance, headache, and scalp discomfort, were generally mild, they remained the primary drivers of discontinuation. Importantly, discontinuation was significantly higher in the public hospital, reflecting logistical and resource limitations that affect feasibility. However, among patients who completed cooling, hair-preservation success did not differ significantly between public and private settings, demonstrating consistent effectiveness once the protocol is completed. As the first real-world scalp-cooling cohort in Uruguay, these findings support broader insurance coverage, equitable access, and tailored implementation strategies across Latin America, accounting for hair-type diversity, system-level inequities, and patient-centered quality-of-life priorities.

Conclusions

Scalp cooling with DigniCap® was effective and well-tolerated in Uruguayan patients, achieving hair-preservation outcomes comparable to international real-world data. Higher discontinuation rates in the public setting highlight the impact of logistical and resource limitations rather than device tolerability alone. This first Uruguayan cohort provides valuable regional evidence supporting broader access, insurance coverage, and tailored implementation of scalp-cooling programs in Latin America.

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