

Final results of scalp cooling for hair preservation: A single- institution prospective study

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Background

The cancer treatments bring with it body image challenges, causing low self-esteem and contributing to worsen the quality of life. Chemotherapy (CT)-induced hair loss (HL) is one of the most emotionally distressing side effects of several breast cancer (BC) treatments. The DigniCap system (DCS), using the scalp cooling system, has been shown to reduce CT-induced alopecia (A) in a multicenter prospective trial. The purpose of this prospective observational study was to describe our experience.

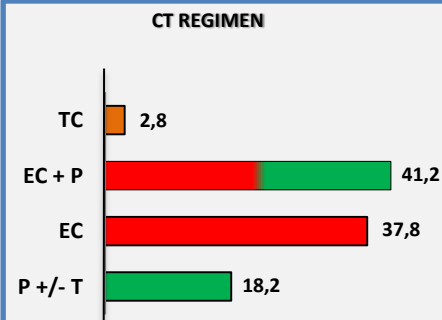
Patients and Methods

Two DCS device are available at the Brindisi Oncology Dpt. From February 2016 and January 2019, 143 consecutive early stage BC pts who received anthracycline and/or taxane-based treatment were enrolled, post local Ethics Committees approval. A nurse and a psychologist were dedicated for these pts. Success of scalp cooling was defined according to the Dean's scale: G0=no HL; G1 < 25% HL; G2=25-50% HL; G3=50-75% HL; G4 >75% HL.

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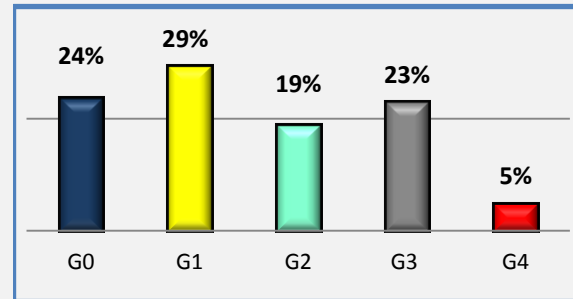
Population characteristics

Patients – no. (%)	143 (100)
Median age, years (range)	49 (31-75)
Setting – no. (%)	
Neoadjuvant	13 (9)
Adjuvant	130 (91)
Chemotherapy regimen – no. (%)	
taxanes +/- T	26 (18.2)
anthracycline	54 (37.8)
taxanes + anthracycline	59 (41.2)
docetaxel + cyclophosphamide	4 (2.8)
Number of total courses with DCS - no.	1488

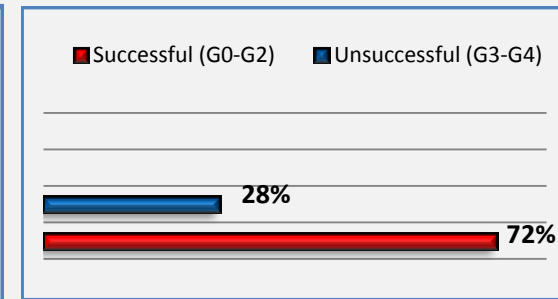


Results

A total of 143 women were included in the following treatment cohorts: n= 59 (41.2%) received 4 courses of EC (epirubicin at 90 mg/m² and cyclophosphamide (c) at 600 mg/m² intravenously (IV) on day 1, with 21 days between cycles) followed by 12 courses of paclitaxel (P) 80 mg/m² IV once a week (w); n=54 (37.8%) received only 4 courses of EC, n= 26 pts (18.2%) P (80 mg/m² IV once a w) and concurrent trastuzumab (2 mg/Kg IV; loading dose 4 mg/kg) for 12 consecutive doses and n= 4 (2.8%) pts received 4 courses of TC (docetaxel at 75 at 90 mg/m² and c at 600 mg/m² IV on day 1, every three w. Median age was 49 years (range 31-74). Overall success was observed in 103 pts (72%) (Tab 1). Full preservation of the hair (G0) was observed in 34 pts (23.8%) (Fig. 1 and Fig. 2), G1 in 42 pts (29.4%) and G2 in 27 pts (18.9%) (Tab 2). Most frequent scalp cooling-related symptoms were coldness (n=116, 81%), neck pain (n=83, 58%) and headache (n=105, 73%). Thirty three pts (16%) discontinued DCS because of unsatisfactory hair preservation (n= 11, 7.7%) and cold discomfort (n= 12; 8.4%). Furthermore we observed a hair growth when DCS was continued for pts with A G3 – G4. (Fig. 3 and Fig.4)



Tab 1. A/HL according to the Dean's scale



Tab 2. Overall S/U



Fig. 1 (1 course EC)



Fig. 2 (last course EC)



Fig. 3 (last course EC) Fig. 4 (3 w from last CT)

Conclusions

Our results confirmed and reinforced previous evidences, showing that DCS is a good chance to prevent A during CT with anthracycline and/or taxane-based regimen and supported the wider use to all women with early stage BC.