

Efficacy of a Silicon Based Continuous Scalp Cooling System with Thermostat on Chemotherapy Induced Alopecia

Tony Ibrahim*, Joseph Kattan, Tarek Assi, Georges Chahine, Fadi El Karake, Fadi Nasr and Marwan Ghosn

Keywords: Scalp cooling; Chemotherapy induced alopecia; Hair loss; Orbid-paxman scalp cooling

Introduction

Alopecia is one of the most distressing side effects of chemotherapy. Although reversible, it may affect body image in cancer patients and have great influence on treatment acceptance [1-3]. In fact chemotherapy, by acting on rapidly growing cells, affects mainly hair follicles on the scalp which are in majority in the growth phase [4,5]. Patients may also lose their eyebrows and eyelashes [6]. Hair shredding usually occurs one to two weeks after infusion and its severity depends both on the type and dose of chemotherapy like Taxanes and doxorubicin, two crucial drugs in the treatment of woman with breast cancer [6-12].

Currently, preventive measures mainly focus on scalp cooling [13]. This is later was first introduced in the 1970s, and has been used since to reduce and prevent chemotherapy induced alopecia (CIA) [14]. Its efficacy in the literature, however, is highly variable and unpredictable which could be due to variations in cooling techniques, hair loss evaluation methods and chemotherapeutic regimens [6,8]. Several other factors have been proposed to influence success of this procedure like cooling type and time, scalp temperature and hepatic function [6,15].

The objective of this work is to test the tolerance and effectiveness of a new silicon based cooling technique in preventing CIA after each of six cycles of Taxanes and/or doxorubicin based chemotherapy.

Materials and Methods

This is a one center prospective descriptive study. All included patients were females receiving Taxanes and/or Adriamycin based regimens from June- 2013 till June-2014 at the oncology department of Hotel-Dieu de France University Hospital. We excluded patients having cold induced urticaria, cold agglutinin disease, cryoglobulinemia, and post-traumatic cold dystrophy. Cooling was done using the Orbis-Paxman scalp cooling system as written on machine protocol. Hair loss

***Corresponding author:** Tony Ibrahim, Hematology -Oncology Department, Faculty of Medicine, Saint Joseph University, Beirut - Lebanon, Tel: 0096170971758; E-mail: ibrahim_toni@hotmail.com

Received December 25, 2014; **Accepted** February 17, 2015; **Published** March 02, 2015

Citation:



10. and body image during alopecia induced cancer chemotherapy. Support Care Cancer 5: 139-143.
- 11.
12. Trüeb RM (2009) Chemotherapy-induced alopecia. Semin Cutan Med Surg 28: 11-14.

References

1. prevent chemotherapy-induced hair loss: practical and clinical considerations. Support Care Cancer 17: 181-189.
2. induced alopecia. Patient Educ Couns 52: 333-339.
3. 19: 701-709.
4. et al. (2000) p53 is essential for chemotherapy-induced hair loss. Cancer Res 60: 5002-5006.
5. Trüeb RM (2010) Chemotherapy-induced hair loss. Skin Therapy Lett 15: 5-7.
6. induced alopecia. Oncologist 18: 885-891.
7. care--a literature study. Eur J Cancer Care (Engl) 10: 147-163.
8. loss by scalp cooling. Ann Oncol 16: 352-358.
9. Lemenager M, Lecomte S, Bonnetterre ME, Bessa E, Dauba J, et al. (1997) Effectiveness of cold cap in the prevention of docetaxel-induced alopecia. Eur J Cancer 33: 297-300.