

E. CIAMBELLOTTI

**BENEFITS OF AN HYPOTHERMAL HELMET TO
REDUCE ALOPECIA DURING WEEKLY 4 -
EPI-DOXORUBICIN MONOCHEMOTHERAPY IN
ADVANCED BREAST CANCER.**

Estratto da:
ACTA ONCOLOGICA
VOL. 14 - N° 3, 1993

PICCIN EDITORE - PADOVA

Benefits of an hypothermal helmet to reduce alopecia during weekly 4-epi-doxorubicin monochemotherapy in advanced breast cancer

EMANUELE CIAMBELLOTTI

Radiotherapy Division, USSL 47, Biella, Italy

INTRODUCTION

Alopecia caused by cytostatic therapy is in general marked, even if it is reversible after the interruption of cytotoxic. It is a psychological serious event, overall among women and even more in young patients. During the therapy with doxorubicin and its derivatives, alopecia is commonly noticed with an incidence over 70%. Alopecia, directly related to the administered dose, has been fought with hypothermal means; we too employed an helmet containing ice, but it revealed not to be practical. Recently we had the possibility to use an hypothermal helmet that was already successfully tested (Di Giulio, Giacone and Morandini, 1987), which we employed on weekly 4-epi-doxorubicin (Epirubicin) chemotreated patients since it gave us so good results. This particular kind of monochemotherapy with fractionated low doses used also together with Doxorubicin, overall in the advanced breast cancer treatment in aged

patients, is usually quite tolerated because of a total low toxicity, but it causes alopecia as well.

Aim of this work is to describe a survey of advanced breast-cancer affected patients, who even if treated with a right total monthly Epirubicin dose, weekly fractionated, were submitted to an hypothermal helmet before, during and after cytostatic administration, and had an insignificant or poor hair loss.

MATERIALS AND METHODS

Since May 1989 till February 1992, 50 patients have been treated with Epirubicin monochemotherapy: 49 women, aged 57.6 ± 10.7 , Karnofsky over 70, affected by advanced breast cancer (Table 1). In every patient at least 4 doses of cytostatic have been administered in 28 days up to 8 monthly cycles (Table 2). Two patients had already been treated only with Doxorubicin, and five

Key words: hypothermal helmet, weekly epidoxorubicin, alopecia.

Parole chiave: cuffia ipotermica, epidoxorubicina settimanale, alopecia.

Pervenuto in Redazione il 14 giugno 1992.

Table 1
CHEMOTREATED PATIENTS

Prevalent location of metastases	No.
Lung	5
Skin	6
Bone	18
Lymphatic	21

Table 2
CHEMOTHERAPIC CYCLES

Monthly cycles	Patients
1	8
2	4
3	6
4	4
5	8
6	13
7	3
8	4

Table 3
CYCLES AND FRACTIONATED DOSES

Cycles	Dose (day 1, 8, 15, 22)
12	30 mg
18	35 mg
165	40 mg
7	45 mg
18	50 mg

Table 4
DEGREE OF ALOPECIA

Degree	Patients
0	40
1	9
2	1

patients with polychemotherapy including Epirubicin (FEC).

The hypothermal helmet, soft, elastic, made of sponge tissue, covered by a thermic isolant, one-sized, cooled in a refrigerator for at least one night, was well fitted on the patients' head, interposing a thin sheet of paper, 10 minutes before till 30 minutes after the drug administration, since it generally remains cool for about an hour. The helmet was replaced by another one when the first did not remain cool enough.

The cytostatic administration was always carried out in slow glucose phlebotomy from a minimum dose of 30 mg/week to a maximum of 50 mg/week (Table 3), calculated on the basis of 100 mg/m² every 4 weeks.

The highest degree of alopecia reached during the whole chemotherapeutic treatment was valued according to the WHO-Geneve 1979. In most cases a picture of the hair had been taken at the beginning, during and at the end of chemotherapy. Obviously we did not employ the helmet on a patient affected by metastatic osteolysis of the skull.

RESULTS

The hypothermal helmet was tolerated, even if it sometimes caused headache, accepted or rather requested by the female patients, to whom the benefits of the helmet had been explained.

In our survey we observed a minimal or no hair loss in 80% of the cases, also on those patients who have received a weekly dose of Epirubicin of 50 mg up to total doses of 800-900 mg/m² (Table 4). A patchy alopecia appeared in only 9 patients, sometimes after 2-3 cycles, sometimes even after 6 cycles. Alopecia of grade 1 appeared on a patient treated with 35 mg/week, on seven patients treated with 40 mg/week, on one with 50 mg/week. Only one patient, chemotreated 14 years ago with CMF, had an immediate alopecia of grade 2. In all patients the new growth of hair was noticed after the end of the therapy.

DISCUSSION

In our survey alopecia caused by the drug toxicity on the cells of the hair bulbs, quickly proliferating, appeared infrequently. Most

