

# Multicenter results of scalp cooling to prevent chemotherapy-induced alopecia in 1500 breast cancer patients

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## Background

- Severe hair loss is very common in breast cancer patients
- Chemotherapy-induced alopecia (CIA) is distressing
- Scalp cooling:
  - Mostly positive outcomes on CIA reduction, except for TAC regimen
  - Is applied before, during & after chemotherapy infusion
- Aims:
  - Estimate results by type of chemotherapy
  - Identify associated characteristics

## Results

- Overall result 48% no head cover (incl. wig)
- Less effective by increasing dose
- Mean age 53 (range 18-81 years)
- 77% treated in adjuvant setting
- 3% stopped scalp cooling because of intolerance
- No scalp skin metastases reported until November 2011

OR: odds of wearing no head cover during the last scalp cooling session

hc=head cover (incl. wig) F=5-fluorouracil E=epirubicine C=cyclophosphamide A= doxorubicine T=docetaxel (m)=monotherapy \* Significantly associated

##Doce= mono and combination chemotherapy

\$ missings included in analysis \*\* dyed, waved, coloured

\$\$ South-European, Asian and African vs West-European

# Dampened hair or used hair conditioner before start scalp cooling

Characteristic	n=	% no hc	OR no hc (95%BI)
<b>Age group</b> (years)			
<45	346		1.0
45-54	640		1.3 (0.9-1.9)
55-64	501		1.1 (0.8-1.7)
65+	196		0.6 (0.4-1.1)
<b>Chemotherapy</b>			
FEC	899	47	1.0
AC	114	34	1.0 (0.6-1.8)
ACTaxolH	83	45	1.0 (0.5-2.2)
TAC	101	5	0.8 (0.03-0.2)*
Doce##	115	62	1.9 (1.01-3.5)*
FAC	63	51	1.2 (0.6-2.4)
FEC-Doce	141	50	0.9 (0.4-2.0)
Taxol (m)	101	76	5.2 (2.3-12.1)*
Other	79	71	5.2 (2.0-13.2)*
<b>Infusion time</b> \$			
<31	238		1.0
31-45	458		1.4 (1.0-2.1)
46-60	394		1.6 (1.1-2.5)*
61-90	228		1.7 (1.0-3.1)
90+	202		1.8 (0.8-3.9)
<b>Chemotherapy before</b> N (vs Y)	1436		0.7 (0.4-1.1)
<b>Chemically manipulated</b> ** N (vs Y)	922		0.9 (0.7-1.1)
<b>Length</b> <5 cm (vs ≥5 cm)	410		0.9 (0.7-1.3)
<b>Quantity</b> \$			
Small	69		1.0
Medium	713		0.6 (0.3-1.1)
Large	742		0.7 (0.3-1.3)
<b>Type of hair</b> \$\$ Other(vs W-EU)	1425		0.4 (0.2-0.7)*
<b>Wetted hair</b> # N (vs Y)	1275		1.0 (0.7-1.4)

## Methods

- 1696 scalp cooled female breast cancer patients
- Scalp cooling using Paxman system (PSC1 or 2)
- Pre cooling time 30 minutes, post cooling time mainly 90 minutes
- 8 Participating hospitals in 2006; 43 Hospitals in November 2011
- Questionnaires completed by patients and nurses
- End point: head cover (incl. wig)
- Logistic regression analysis:
  - 1057 patients included in analysis
  - Associated characteristics determined a priori



## Conclusion

### Scalp cooling

- Is effective in most breast cancer chemotherapy regimens
- Should be offered to all eligible breast cancer patients, regardless of age
- Is not effective in TAC (75-50-500 mgr/m<sup>2</sup>, administered in 90 minutes)
- Seems most effective in taxanes
- Is less effective in South-European, Asian and African hair types

### Registration

- Is continuously ongoing in the Netherlands
- Improves patient information
- Improves quality of scalp cooling, because best practices can be detected