

## *Special Article*

# Changes in Scalp Hair After Cancer Chemotherapy

ANNE ROBINSON\* and WILLIAM JONES

*The University Department of Radiotherapy, Tunbridge Building, Cookridge Hospital, Leeds LS16 6QB, U.K.*

ONE of the common side-effects of cancer chemotherapy is alopecia. Alteration in pigmentation following hair regrowth has been described [1, 2] but not quantified. There are no reports of effects on hair texture and type. The emotional impact on patients, if any, of these changes has not been documented. We present data on alterations in hair characteristics after cytotoxic therapy for testicular cancer and the psychological effect of such changes.

### METHODS AND RESULTS

Male patients with metastatic germ cell neoplasms of the testis (teratoma and seminoma) who had received *cis*-platinum based chemotherapy were asked to complete a questionnaire on changes in hair pigmentation, texture and type following treatment. The psychological impact of these alterations was also sought. One hundred patients were invited to participate, 69 replied. The majority (75%) had teratomas, 12% had seminoma and 13% mixed semino-teratoma. Ages ranged from 15 to 54 years with a median of 30 years. The median time from cessation of cytotoxic treatment to completion of the questionnaire was 1 year. Of the 69 patients who replied, all but one developed alopecia. Subsequent regrowth occurred in every case. In 28% (19/69) hair colour was altered; 11 becoming darker, three lighter and in five no details were given. Two patients subsequently reported reversion to the original hair colour within 2 years of completing treatment. The median age of patients with altered colour was 24 years (range 15-42 years) and was 31 years (range 17-54

years) for the remainder. Hair texture changed in 28 (41%) of patients (age range 15-47 years, median 29 years), in 40 (58%) there was no difference (age range 17-54, median 31 years) and in one (1%) there was no reply. In 20 (29%) it became finer, in eight (12%) coarser. Alterations in hair type occurred in 36, becoming straighter in 28 (41%), and curlier in eight (12%). These changes were often transient—15 patients reported reversion to straight hair after one hair cut, three at 1 year and in six the time course to reversion was not recorded.

Twenty-two (32%) patients reported having received or overheard comments about their altered hair characteristics. In four (6%) these caused significant emotional upset; these patients were aged 22, 27, 28 and 30 years. Two reported becoming very self-conscious, a third felt strangers were constantly talking about him and the fourth commented that strangers stared repeatedly. Nine patients (13%) received favourable comments and nine did not specify the effect of the comments.

### COMMENTS

Alopecia is a well recognized toxic effect of many anticancer drugs on the rapidly dividing cells of the hair bulb. While hair loss is almost always reversible, alterations in texture, type and pigmentation are not always transient and have not been documented or reported routinely so far. Observation of dramatic changes in colour of scalp hair prompted this study. It is interesting to note in patients with straight hair immediate regrowth may be of curly hair which usually reverts to original type within a year. The emotional implications for the patient of such treatment-associated changes cannot be ignored, and are likely to be variable, with sociocultural factors intervening. In this study, four patients felt the changes in hair

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\*Presently: Senior Registrar, Christie Hospital, Manchester M20 9BX, U.K.

Correspondence and reprint requests to Dr. Jones, Cookridge Hospital, Leeds LS16 6QB, U.K.

characteristics altered their quality of life significantly. These potential drug effects should be explained prior to therapy to minimize their

psychological impact. Emphasis should also be placed on the reversibility of the changes in the majority of cases.

#### REFERENCES

1. Gauci L, Serrou B. Changes in hair pigmentation associated with cancer chemotherapy. *Cancer Treat Rep* 1980, **64**, 193.
2. Lourcero C, Gill PS, Rarick M, Levine AM. Red hair and hyperpigmentation in a black man after chemotherapy. *J Clin Oncol* 1987, **5**, 1705.