

## Role of Radiotherapy in Primary CD30+ and Pleomorphic Small/Medium-sized T-cell Lymphomas

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Sir,

In the treatment of cutaneous T-cell lymphomas, radiotherapy plays a well-known role in the management of mycosis fungoides (MF) and Sézary syndrome, as localized radiotherapy or total skin electron-beam irradiation. Furthermore, radiotherapy has been indicated as first choice treatment in large cell CD30+ lymphomas (LCCD30+L) (1, 2), and in pleomorphic small/medium-sized cells lymphomas (PSMSL) (1, 3, 4). The former is characterized by a single nodular-ulcerative lesion or grouped nodules, rarely multifocal, sometimes spontaneously regressing, showing histopathologically a diffuse non-epidermotropic infiltrate of large cells expressing CD30 phenotype. The latter is defined by the occurrence of one or several dark red nodules, due to a neoplastic infiltrate of pleomorphic small/medium-sized cells, without clinical evidence of concurrent patches typical for mycosis fungoides. In this short report we update our data on the radiological treatment of LCCD30+L (5), evaluate the results of radiotherapy in the treatment of PSMSL, and compare our findings with those reported in the literature (1–4, 6).

### PATIENTS AND METHODS

In the period 1990–2003, a total of 186 new patients diagnosed with primary cutaneous lymphomas were referred to our department for radiotherapy. Eighteen (9.7%) had a diagnosis of LCCD30+L and 8 (4.3%) of PSMSL (Table I). Before treatment, all patients underwent histopathological investigation with immunophenotyping of the lymphoid infiltrate (1). The molecular biology investigations were performed in only four patients from each group and were positive for monoclonal re-arrangement in three patients affected by LCCD30+L and two patients with PSMSL. In all patients complete staging procedures ruled out the presence of extracutaneous localization of the disease. The diagnosis of primary cutaneous disease was mandatory for the selection of clinical cases to be treated by radiotherapy only.

Radiotherapy was administered as the sole treatment in all cases, except in one case of LCCD30+L, who received s.c. interferon- $\alpha$  3 million IU every second day.

The radiological treatment was conducted by conventional techniques. Forty-three fields of irradiation were performed with total doses ranging from 15 to 30 Gy for LCCD30+L (median 20 Gy) and from 20 to 30 Gy for PSMSL (median 30 Gy). The irradiation field encompassed a 1–1.5 cm margin of healthy skin around the lesion.

### RESULTS

The total follow-up ranged from 1 to 148 months (mean 48 months) for LCCD30+L and from 6 to 91 months (mean 31.9 months) for PSMSL. All treated lesions in both groups achieved complete remission as evaluated at the first follow-up with a 5-year relapse-free rate of 49.84% for LCCD30+L and of 80% for PSMSL, calculated according to the actuarial method of survival tables (7). After complete remission of the treated lesion, one patient with LCCD30+L underwent adjuvant chemotherapy under the surveillance of haematologists, as the initial clinical appearance of the cutaneous disease was aggressive, but with no evidence of other localizations.

In the LCCD30+L group no relapses were observed in the irradiation fields, while we noticed skin relapses in the same anatomical area as the primary lesion in three cases; skin relapse in different anatomical areas occurred in three cases. Three patients developed lymph node involvement; in one case it was associated with a cutaneous relapse far from the primary lesion. In the PSMSL group, marginal recurrence was observed in one case; in another case two new nodules occurred in the same area as the primary lesion.

Up to now no acute or chronic complications of radiotherapy have been observed.

Table I. Clinical features and localization of tumours in the CD30+ lymphomas (LCCD30+L) and pleomorphic small/medium-sized cells lymphoma (PSMSL) groups

Parameter	LCCD30+L	PSMSL
No. of patients	18	10
Age	12–83 years	29–78 years
Sex, women/men	7/11	7/3
No. of lesions	33	11
nodular	15	6
nodular-ulcerative	10	–
plaque	8	5
Localization		
limbs	17	1
trunk	11	6
face	3	4
other	2	0
Total follow-up	1–148 months	6–91 months

## DISCUSSION

The evaluation of the role of radiotherapy in treating primary cutaneous T-cell lymphomas without MF skin lesions needs selected cases based on accurate staging (8). The two groups of patients presented were diagnosed as LCCD30+L and PSMSL, respectively. While the first is defined as a disease with indolent clinical behaviour (2, 8), the second is classified among the 'provisional' entities (1). Our series of patients are not large, but allow us to highlight some points. In the LCCD30+L group the initial response to radiotherapy was good after administration of a median total dose of 20 Gy: all lesions responded quickly to radiotherapy, going into complete remission. The 5-year relapse-free rate was 49.8%. Skin relapses never occurred in the irradiation field, but were observed in new skin localizations, which were treated successfully by a new course of radiotherapy or with systemic treatment. In two patients who developed lymph node involvement, salvage therapies (electron-beam and/or chemotherapy) brought the disease into remission, while a third case was lost to follow-up. Therefore, radiotherapy was curative in half of the patients and useful in the treatment of the recurrence of the disease, when confined to the skin. However, with the onset of new multiple skin lesions, radiotherapy was combined with systemic treatments.

The small series of PSMSL patients showed an excellent response to radiotherapy with a median total dose of 30 Gy. The 5-year relapse-free rate was 80%. The two patients who relapsed have been re-treated and do not show extracutaneous disease progression. Such observations should indicate a good prognosis, when the disease is presenting as single or a few lesions (4). In these cases radiotherapy is a treatment of choice, being a local and selective treatment modality.

Finally, our findings support the effectiveness of radiotherapy as also reported in the literature (1–6, 8). Its major role relates to treatment of single or few lesions as an alternative to surgical excision. Our experience is based on the use of conventional radiotherapy techniques (50–120 kV). The results appear similar to those obtained with high energies (9), and confirm the value of the skin diseases-dedicated machines (10), especially in situations where high-tech devices are not available. The treatment has been well

tolerated and devoid of noticeable side effects because of a relatively low dose of irradiation.

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