LETTERS TO THE EDITOR

Postradiation Dermatofibrosarcoma Protuberans

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Sir,
Ionizing radiation induces various malignant skin tumours. However, only two cases of post-radiation dermatofibrosarcoma protuberans (DFSP) have so far been reported in the literature. We report here another case of DFSP that developed on the skin with chronic radiation dermatitis where the patient had received radiation therapy 75 years earlier. Immunostaining for CD34 was useful for the diagnosis of this case.

CASE REPORT
A 75-year-old woman visited us in May 2003 because of a reddish nodule on her left breast (Fig. 1). The size of the tumour was 12×12×6 mm, and it had increased very slowly since 2000. The nipple of her left breast had not developed. The tumour was on the mottled brown poikilodermatous hard skin on her left breast. Her parents had told her that she had ‘red naevus’ on her left breast when she was born. Although, the size, type and histopathology of the ‘red naevus’ were not known, it must have been a type of haemangioma. She received radiation therapy on that lesion soon after she was born. The records of the dose, fraction and the source of radiation were not available. The haemangioma regressed after radiotherapy and chronic radiation dermatitis had persisted throughout her life.

We excised the tumour under the clinical diagnosis of a benign appendegeal tumour. The scanning magnification of the histopathology showed that the tumour was protruding from the surrounding skin (Fig. 2a). The tumour was asymmetrical and located on the upper dermis underneath the epidermis. Epidermis was thin and flat. No hyperpigmentation of the basal layer was noticed. No grenz zone was present under the epidermis. The lower margin of the tumour was facing thick eosinophilic bundles of collagen. The lower margin of the tumour was well demarcated. The high power view of the histopathology showed the characteristic cart wheel pattern composed of the spindle-shaped tumour cells with blunt nuclei (Fig. 2b). Few mitoses were observed. Immunohistochemistry showed positive staining with CD34 and vimentin. Alpha-smooth muscle actin, S-100, neurofilament, desmin and HMB-45 were negative. Based on these findings, we diagnosed this tumour as DFSP that developed on the site of the chronic radiation dermatitis. Mutation analysis of the tumour material was not available.

Because of frequent local recurrences due to insufficient margin of excision in the DFSP, and of the possibility that radiated skin may induce malignant skin tumours, we excised the whole area of the poikilodermatous hard skin, 3 cm away from the original operation scar. The lower margin of the resection included underlying fascia. In the poikilodermatous skin, orthohyperkeratosis, irregular acanthosis with spongiosis of the epidermis, homogenized collagen fibres and telangiectasia of small blood vessels in the dermis were observed. So called ‘radiation fibroblasts’ with enlarged, stellate-shaped and hyperchromatic nuclei were scattered in the dermis. Immunohistochemistry showed that radiation fibroblasts were positive with vimentin and negative with CD34, alpha-smooth muscle actin, S-100, neurofilament, desmin and HMB-45. One and half years after the excision of the tumour, neither local recurrence nor metastasis was noticed.

DISCUSSION
DFSP is an uncommon, cutaneous sarcoma that has aggressive local behaviour and a high rate of local recur-
REFERENCES