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LETTER TO THE EDITOR

RADIATION INDUCED DIFFUSE CUTANEOUS BASAL CELL CARCINOMA (BCC) IN A RETIRED RADIOLOGY TECHNICIAN

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To the editors,

Basal cell carcinoma (BCC), the major histological type of non-melanoma skin cancers with an 80% prevalence, is the most frequently diagnosed malignancy in the fair-skinned population worldwide (1,2). The American Cancer Society reported that skin cancers consist of approximately half of all cancers diagnosed in the USA (2). Skin cancers, including BCC, are the first solid cancers associated with radiation (3). Radiologists and radiology technicians were the first working population in which radiation-induced skin cancers were recognised (3). Rogers et al. reported a 4.2% incidence of non-melanoma skin cancers among the health care population in their research, analysing the years between 1992 and 2006 (4). We aim to raise all of our colleagues' awareness with our one-patient letter.

An 81-year-old male patient observed a spontaneously formed scar on his nose approximately 4 years ago. He applied different dermatologic treatments in an attempt to heal it; however, 5–6 months before our examination, he detected another lesion on the left half of his upper lip and was referred by a dermatologist. After applying additional dermatologic treatments, punch biopsies were sampled from both of the lesions. Pathology reported BCC and he was consulted by our clinic. A history of working as a radiology technician for over 50 years, preparing radioactive materials and solutions for imaging devices with bare hands, particularly in the first decade of his occupational lifetime, was noted as remarkable in the anamnesis. In contrast, he mentioned that he had never had similar complaints before, particularly during his occupational life. Excisional biopsies were planned for the lesions (Figure 1). Lesions on the nasal dorsum and left nasolabial groove were excised *en block*. All of the scars healed without complication. The pathology department reported BCC for the lesions and dermatologic follow up was coordinated for the patient. At month 2 of his follow up, multiple dermatologic nodular lesions with irregular borders and telangiectasia on the chest wall and bilateral shoulders were observed (Figure 2). Excision was performed and BCC (superficial spreading) was reported again. Dermatologic follow up continued. Three months later, he was examined with multiple lesions on posterior cervical, left preauricular, left anterolateral femoral and left lumbar sites and the dorsum of the trunk (Figure 3). Excisional biopsies were reported as nodular BCC for posterior cervical lesions. Others were of the superficial spreading form again (Figure 4). After scar healing without complications, the patient declared that he rejected to proceed with his follow up. His follow up ended 6 months after his first examination.

Objectively, detecting BCC in a patient who worked with radioactive materials and radiologic imaging devices without enough protection for more than 50 years was not an unexpected clinical situation. However, ignoring sun exposure as one of the main factors would be a bias after considering the patient's age and localizations

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Figure 1— Scar on the nose.

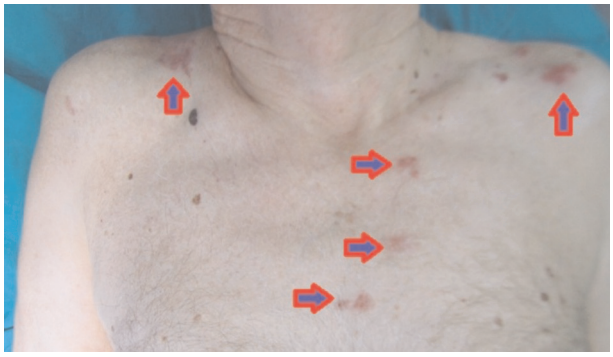

Figure 2— Noduler lesions.

of the first excised lesions (nasal dorsum and nasolabial groove). On the other hand, most of the lesions detected on follow up were under clothed areas. If we add the aggressiveness of BCC and literature data on record, the rational for a radiation-induced BCC diagnosis is strengthened. In addition, the patient had been a retired individual for 15 years. There was quite a long lag period before the first lesions were detected. Eventually, it was a misfortune that the patient chose to end his follow ups voluntarily.

Scientific studies on radiation and its effects on health are progressing exponentially. Moreover, radiation-induced diseases still present challenging situations. Clearly, we are not proficient enough in some cases. Almost all branches of medicine need to work with radiology or radiologic materials today. We hope to remind our colleagues about radiation-induced BCC with this letter.

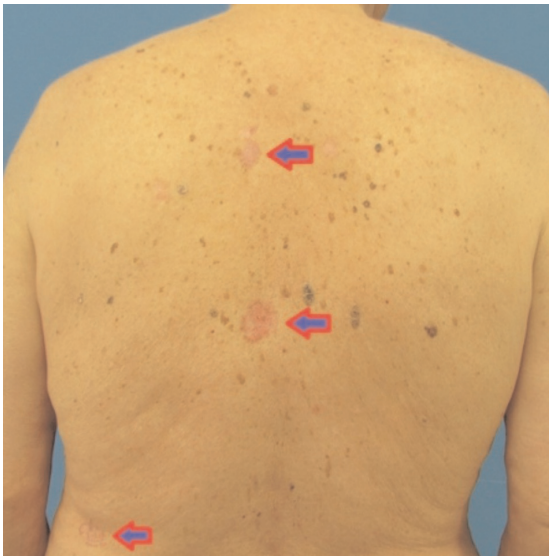

Figure 3— Multipl lesions.

Figure 4— Superficial spreading.

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