NOTES & COMMENTS

Radiation-induced inflammatory dermatosis: Another facet of the immunocompromised cutaneous district

To the Editor: We read with great interest the letter by De Vita et al[1] published in this issue of the Journal that discusses the putative mechanisms underlying our case of radiation-induced hidradenitis suppurativa.[2] The authors suggested this clinical presentation to be a typical example of "isoradiotopic response," where the onset of a new skin disease is strikingly limited to a skin area previously exposed to ionizing radiation,[3] and of an "immunocompromised cutaneous district" (ICD) where the mechanisms involved in any secondary disorder occurring on irradiated skin areas are connected to local dysfunction of lymph drainage or neuroimmune signaling resulting in immune dysregulation.[4,5] The locoregional skin immune system is surely impacted by irradiation, which may lead either to a reduction of immunity (as suggested by the facilitated occurrence of tumors and infections), or to its upregulation (as suggested by the possible onset of autoimmune and inflammatory dermatosis).[4,5]

In addition to hidradenitis suppurativa, other reported radiation-induced inflammatory dermatoses include lichen planus,[3] bullous diseases (pemphigoid pemphigus foliaceus, pemphigus vulgaris, Brunsting–Perry cicatricial pemphigoid, paraneoplastic pemphigus),[6] erythema multiforme and Stevens–Johnson syndrome,[7] scleroderma,[8] and pseudosclerodermatous panniculitis,[9] and, interestingly, the incidence of extracutaneous inflammatory diseases, such as Crohn's disease, has been reported in irradiation sites.[10] Besides ionizing or ultraviolet radiation, ICD has also been reported in chronic lymphatic stasis, herpetic infections, burns, many types of trauma (especially amputation), tattooing, intradermal vaccinations, and others of disparate nature (eg, paralytic stroke and poliomyelitis).[5]

We agree with De Vita et al that understanding and recognizing the novel concepts of both ICD and isoradiotopic response are important standpoint for both diagnostic and prevention purposes, especially that the time latency between radiation injury and the appearance of secondary eruptions is variable and may extend to several years. Future clinical observations and experimental studies on radiation dermatitis are needed to elucidate mechanisms underlying radiation-induced local oncogenesis and the increased propensity to develop dysimmune disorders.

We thank the authors for giving us the opportunity to discuss such a complex and interesting topic.

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