# Atypical postradiation vascular proliferation: Coping with uncertainty

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Cancer patients must cope with uncertainty. "What if" questions regarding prognosis, mortality, treatment, adverse reactions, and quality of life abound. Dermatologists should help patients navigate murky waters—an example is rendering the diagnosis of atypical postradiation vascular proliferation (APRVP).

Postradiation vascular tumors include postradiation angiosarcoma, a malignancy with significant mortality, and APRVP, which is characteristically benign. Angiosarcoma and APRVP may show clinical and histologic overlap; additionally, cases of angiosarcoma arising from APRVP have been reported, suggesting that both lesions may be part of a spectrum.[1] Most cases of APRVP are on the chest of women after radiation therapy for breast cancer. There are scattered reports after radiation for gynecologic malignancies, multiple myeloma, bladder rhabdomyosarcoma, tonsillar squamous cell carcinoma, and pediatric astrocytoma.[2]

In general, mammary angiosarcomas may appear de novo (primary) or as a complication of chronic lymphedema or radiotherapy.[3] Guo et al[4] reported that high-level *MYC* amplification was found in 100% of secondary (postradiation [n = 20] or lymphedema-associated [n = 2]) angiosarcoma, but in none of the 12 patients with APRVP.[4] It is important to recognize that APRVP and angiosarcoma may colocalize to the same irradiated field; therefore, any vascular lesion that occurs in a previously irradiated field should be completely excised with tumor-free margins (if possible) for histologic examination.[1]

In this issue of the *Journal of the American Academy of Dermatology*, Zhang et al[5] reviewed 193 patients with APRVP (98% women; mean age, 61.3 years), of which 88% had primary breast malignancies. From a dermatologic perspective, 2 patients had melanoma, 2 had Merkel cell carcinoma, and 2 had anal cell carcinomas. The median time to APRVP onset was 6 years postradiation. Most APRVPs were asymptomatic single lesions, <1 cm, with a papule/plaque morphology. Angiosarcoma was subsequently diagnosed in 3% (3 of 100) of the patients, all women with primary breast cancer, with a median time of 229 days. Of these 100 patients, 10 were deceased at the end of the study, none from angiosarcoma. Of 91 patients managed, the APRVP was excised in 47%, and 52.7% underwent active clinical monitoring, with no differences in demographic or clinical characteristics, or incidence rates of recurrence between the excision and monitoring group, although follow-up was short. The authors suggested that APRVPs are clinically varied and associated with other cancers besides breast cancer, with only 3% developing a subsequent diagnosis of angiosarcoma. The short duration between APRVP and the angiosarcoma diagnosis may have been due to mischaracterization of the initial pathology, concurrent disease processes, or rapid angiosarcoma evolution.[5]

There are no standard guidelines for managing APRVPs. Dermatologists and pathologists must be cautious in evaluating any vascular lesion appearing on irradiated skin. Long-term follow-up is mandatory. Excisional biopsies should be performed, with repeated biopsies for recurrent or new lesions.[2] Receiving a diagnosis of cancer, and its concomitant vagaries, challenges even the most stoic patients. Rendering the diagnosis of APRVP, with its small but real risk of developing angiosarcoma, requires

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empathy. Zhong et al offer cautious optimism—I concur with them that better prognostication requires further research.

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