

## CLINICAL IMAGES

## Radiotherapy-induced “solar” comedones

Ching-Fu Huang MD, Wei-Ming Wang MD PhD



**Figure 1:** (A) A 38-year-old man presented with multiple grouped comedones and cysts over an ill-defined yellowish atrophic region on the right side of his face. The patient had recently finished a course of radiotherapy for squamous cell carcinoma of the right buccal mucosa. (B) Daily topical application of adapalene gel (0.1%) was prescribed, and partial resolution was seen at 3 months' follow-up.

A 38-year-old man with a history of smoking (1.5 packs/d) visited our clinic with a facial rash that had persisted for two weeks. Four weeks before presentation, the patient had completed a seven-week course of radiotherapy (total dose 70 Gy) for squamous cell carcinoma of the right buccal mucosa, which had been detected four months earlier. The rash was not painful or itchy.

Examination showed multiple groups of open or closed comedones and cystic eruptions over an ill-defined yellowish atrophic region on the right side of his face (Figure 1A). The characteristic manifestation in addition to the patient's history led to a diagnosis of radiotherapy-induced Favre-Racouchot-like disease. We prescribed adapalene gel (0.1%) to be applied once daily to the affected region. The patient's rash had partially resolved at three months' follow-up (Figure 1B).

Favre-Racouchot disease, also known as solar comedones, was first described in 1932 and is thought to be caused by prolonged exposure to ultraviolet light.<sup>1</sup> Other risk factors include acne-genic medications (e.g., steroids, anticonvulsant agents) and smoking.<sup>2,3</sup> The prevalence of Favre-Racouchot disease related to sunlight exposure is around 6% in people older than 50 years of age.<sup>3</sup>

Clinical manifestations include actinic elastosis, cystic nodules and comedones on exposed skin. Because the lesions can be cosmetically disfiguring, they may have a psychosocial impact on the patient.

A similar syndrome may develop after radiotherapy, although the incidence is unknown. The latent period of radiotherapy-induced Favre-Racouchot-like disease is usually two weeks to six months after treatment ends.<sup>4</sup> Ultrastructural studies have shown that sebum retention and comedones may be related to the framework of the skin's connective tissue being altered.<sup>3</sup>

Topically or orally administered retinoic acid derivatives and protection from excessive exposure to sunlight are the recommended treatments.<sup>3,4</sup> For recalcitrant cases, extraction of comedones, dermabrasion, curettage or excision may be beneficial when combined with retinoid agents.<sup>3</sup>

## References

1. Favre M. Sur une kystique des appareils pilo-sebaces localis certaines r'ons de la face. *Bull Soc Fr Dermatol Syphiligr* 1932; 39:93-6.
2. Martin WM, Bardsley AF. The comedo skin reaction to radiotherapy. *Br J Radiol* 2002;75:478-81.
3. Keough GC, Laws RA, Elston DM. Favre-Racouchot syndrome: a case for smokers' comedones. *Arch Dermatol* 1997;133:796-7.
4. Breit S, Flaig MJ, Wolff H, et al. Favre-Racouchot-like disease after radiation therapy. *J Am Acad Dermatol* 2003;49:117-9.

**Competing interests:** None declared.

This article has been peer reviewed.

**Affiliation:** From the Department of Dermatology, Tri-Service General Hospital, Taipei City, Taiwan

**Correspondence to:** Wei-Ming Wang, ades0431@ms38.hinet.net

CMAJ 2012. DOI:10.1503/cmaj.112098