

Soft tissue necrosis after radiotherapy for head and neck cancer

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Case Report

A 60-year-old man with cT2N0M0 hypopharyngeal squamous cell carcinoma received definitive chemoradiotherapy. FDG PET-CT at 4 weeks showed complete metabolic response at primary site (Figure 1). At 6 months, contrasted CT showed no evidence of disease with soft tissue air indicating radiation necrosis and ulceration (Figure 2). The patient had symptom of dysphagia. Laryngoscopy and esophagogastroduodenoscopy showed inflammation without other severe findings. He had conservative care as a treatment option. At 12 months, contrasted CT showed improved nonenhancing ulceration without disease progression (Figure 3).

Four weeks after completion of concurrent chemoradiation, PET-CT (B) showed complete metabolic response.

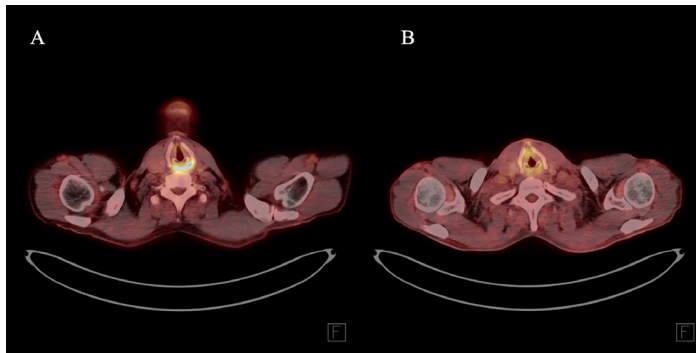


Figure 1: A 60-year-old man, T2N0M0 hypopharyngeal squamous cell carcinoma (SCCA).

PET-CT (A) showed intensely hypermetabolic hypopharyngeal primary (T2), no neck nodal involvement (N0), no evidence for metastatic disease (M0).

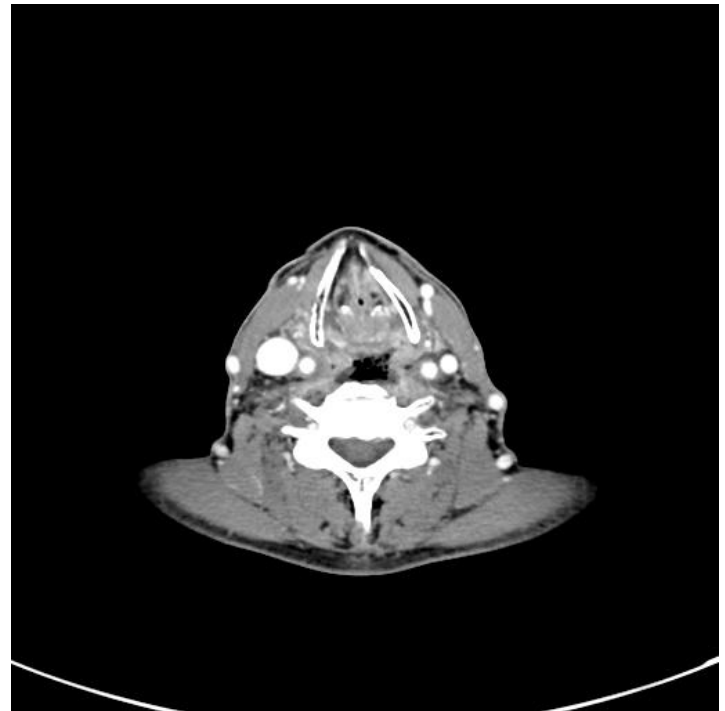


Figure 2: Contrast neck CT at 6 months postchemoradiotherapy demonstrated no evidence of disease with soft tissue air indicating radiation necrosis and ulceration.

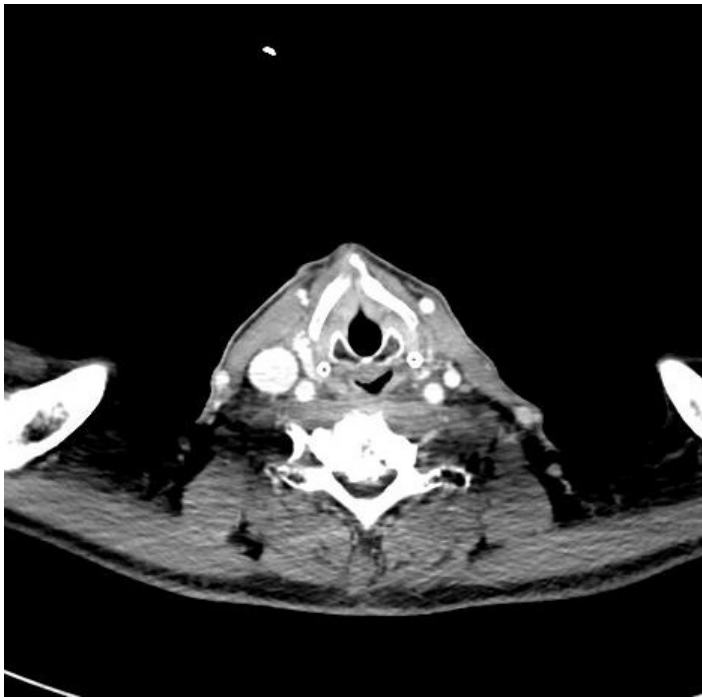


Figure 3: Contrasted neck CT at 12 months postchemoradiotherapy showed improved nonenhancing ulceration without disease progression.

Radiation necrosis in head and neck cancer can occur in bone, cartilage, soft tissue, or brain [1-7]. Soft tissue necrosis results from radiation-induced vascular and lymphatic damage [7,8].

Nonenhancing ulceration of contrasted CT predicts radiation necrosis with no viable tumor [4,6,8]. Biopsy of lesion could help distinguish radiation necrosis with no viable tumor from residual viable tumor and necrotic tumor.

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