

Letters

OBSERVATION

Complete Remission of Squamous Cell Carcinoma After Treatment With Panitumumab in a Patient With Cetuximab-Induced Anaphylaxis

A patient with locally advanced cutaneous squamous cell carcinoma (cSCC) who had had an anaphylactic reaction to an epidermal growth factor receptor (EGFR) inhibitor, cetuximab, responded to panitumumab.

Report of a Case | An 89-year-old man presented with a locally advanced cSCC of the nose that was 35 mm in diameter. The exophytic, ulcerated, necrotic tumor invaded local cartilage, but there was no metastasis (T4N0M0) (Figure, A). The large size of the lesion and difficulty in repairing the defect after excision made surgery inappropriate. In addition, the patient's other comorbidities precluded general anesthesia. He received radiation therapy at a dose of 40 Gy in 10 fractions. The tumor progressed immediately after irradiation with a voluminous infiltrated peripheral bulge. Skin biopsy confirmed the persistence of invasive cSCC. Owing to the patient's age and medical history, the multidisciplinary team recommended systemic palliative treatment with an EGFR inhibitor (cetuximab, 400 mg/m²) beginning 3 months after cessation of the radiation therapy. The first infusion immediately led to an anaphylactic reaction. Anti-galactose- α -1,3-galactose (α -gal) antibodies were detected. The cetuximab treatment was stopped.

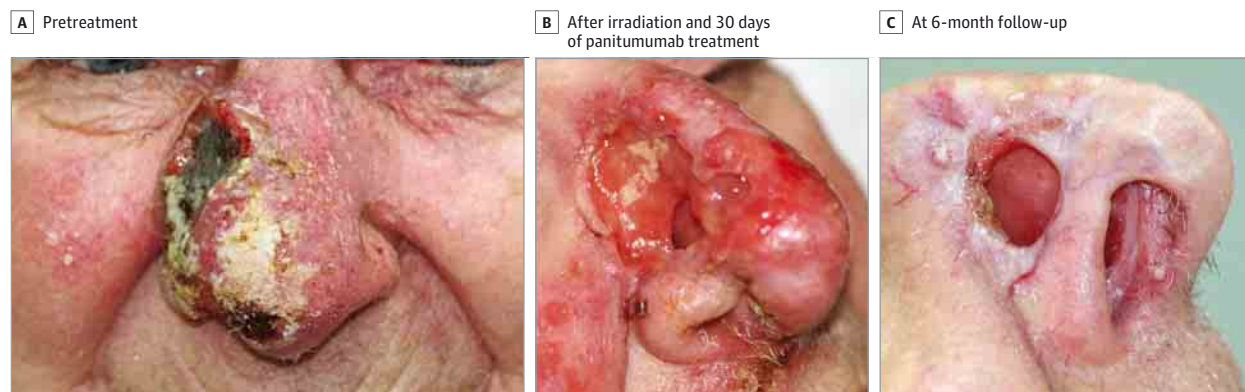
Treatment with another EGFR inhibitor, panitumumab, 6 mg/kg every 14 days, was administered, followed by rapid regression of the peripheral bulge around the ulceration (Figure, B). After 15 treatment cycles, clinically complete remission was obtained and biopsies of the remaining ulceration showed only epidermal hyperplasia. Thereafter, panitumumab injections were given monthly. After 20 cycles, treatment was stopped, and complete remission persisted for 6 months without any treatment (Figure, C).

Discussion | Managing locally advanced unresectable or metastatic cSCC in elderly patients is a challenge.^{1,2} Radiotherapy is sometimes inappropriate or ineffective, and platinum-based chemotherapy may be given alone or in combination with an EGFR inhibitor.^{1,2} In elderly patients, an EGFR inhibitor as a single-agent therapy has been considered palliative.^{1,2} The EGFR gene codes for a transmembranous tyrosine kinase receptor responsible for cellular proliferation and epithelial growth. Cetuximab, a chimeric monoclonal antibody IgG1 EGFR inhibitor, was approved for colorectal cancer treatment and head and neck squamous cell carcinoma and has shown efficacy in cSCC in a phase 2 trial³ with a limited number of patients.

Panitumumab is a fully human monoclonal antibody IgG2 EGFR inhibitor indicated for colorectal cancer treatment. It has shown noninferiority to cetuximab⁴ and is currently in development for head and neck SCC. Panitumumab treatment consists of 1 infusion every other week vs cetuximab, which is administered weekly. There is also a difference in infusion-related reactions, which occur in less than 0.5% of patients treated with panitumumab vs 2% in those treated with cetuximab.⁴ This difference in infusion reactions is due to α -gal, a ubiquitous glycan epitope, which is not expressed in humans but is present on the Fab portion of cetuximab. Panitumumab does not exhibit the α -gal epitope, which explains the lower rate of grades 3 and 4 infusion reactions.⁵ Specific IgE α -gal antibodies are associated with red meat delayed anaphylaxis and with cetuximab immediate anaphylaxis.⁵ A phase 2 study of panitumumab monotherapy in patients with incurable cSCC has shown its safety and efficacy.⁶

These data, as well as the outcome of the present case, suggest that panitumumab is a good alternative to cetuximab when anaphylaxis occurs. The overall response rate with panitumumab of 31% (2 of 16 complete responses) in a previously extensively pretreated cohort seems to be promising in cSCC⁶ and must be confirmed in randomized clinical studies.

Figure. Advanced Cutaneous Squamous Cell Carcinoma of the Nose Before and After Panitumumab Monotherapy



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