Molecular Targeted Therapy in Head and Neck Cancer

Department of Oncology, Asan Medical Center, University of Ulsan College of Medicine, Seoul, Korea

Sung Bae Kim, M.D.

Recent advances in the field of molecular targeted therapies for head and neck squamous cell carcinoma (HNSCC) are possible breakthrough for better efficacy and less toxicity, which has been often limited with current chemoradiotherapy.

EGFR is commonly over expressed in HNSCC and is an attractive molecular target. The EGFR signaling pathway is involved in a variety of cellular responses including cell growth and proliferation, and monoclonal antibodies and small-molecule inhibitors have been developed to inhibit EGFR pathways. Cetuximab, an anti-EGFR monoclonal antibody, is the targeted therapy approved for the treatment of HNSCC in patients with locally advanced tumors, in association with radiotherapy, and in patients with recurrent or metastatic diseases. Other anti-EGFR monoclonal antibody and tyrosine kinases are currently under extensive investigation in patients with high-risk HNSCC or those receiving palliative treatment for recurrent or metastatic disease benefit from the addition of EGFR inhibitors to chemotherapy and radiotherapy. Agents that target angiogenesis have also been tested in combination with EGFR inhibitors.

As these innovative molecules start to be used in clinical practice, the identification of predictive markers for efficacy and toxicity becomes a crucial issue.