ABSTRACT

Background: p16^INK4a (p16) expression in tongue cancer (TC) is reportedly not associated with human papillomavirus (HPV). Mutations of KRAS in cancer cells are most frequently observed within codon 12. However, few reports have investigated the association between KRAS mutations and p16 status in TC.

Objectives: This study aimed to evaluate the influence of KRAS mutations on TC.

Methods: Clinical records and surgically resected specimens of 85 TC patients were analyzed. Tumor samples were analyzed for mutations of KRAS located within codons 12 and 13. p16 staining was performed and considered positive in cases with moderate to strong nuclear and cytoplasmic staining.

Results: Positive p16 staining was observed in 10 cases (11.8%). A KRAS mutation was detected in one case (1.2%). The case with KRAS mutation showed negative p16 staining. Despite being at an early stage, the patient died of lung metastasis at 43 months from initial treatment.

Conclusions and Significance: KRAS mutations are not associated with p16 expression in TC and may predict poor prognosis in TC patients. Further analysis of mutations in regions other than codons 12 and 13 of KRAS will be necessary to determine the relationship between KRAS mutations and prognosis of this disease.