

## ABSTRACT

**Background:** p16<sup>INK4a</sup> (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.