

## ABSTRACT

**Background.** Laryngeal squamous cell carcinoma is a common head and neck cancer worldwide. **Objective.** To determine the demographic characteristics of patients with laryngeal cancer, establish their tumor characteristics and relate it to their smoking and alcohol ingestion habits. **Methods.** Fifty cases and fifty controls were recruited of matching age, sex, and region of residence. History and pattern of cigarette smoking and alcohol ingestion was taken and analyzed. **Results.** 33 (66%) of the cases and 3 (6%) among controls were current cigarette smokers. 74% had smoked for more than 30 years,  $P < 0.0001$  OR 21.3 (95% CI: 2.6-176.1). There was a male predominance (96%) and most cases (62%) were from the ethnic communities in the highland areas of Kenya predominantly in Central and Eastern provinces. Very heavy drinkers had increased risk of  $P < 0.0001$  OR, 6.0 (95% CI: 1.957-18.398) and those who smoked cigarettes and drank alcohol had poorly differentiated tumors G3,  $P < 0.001$ , OR 11.652 (95% CI 2.305-58.895), and G4,  $P=0.52$  OR 7.286 (95% CI 0.726-73.075). They also presented with advanced disease (73.6%). **Conclusion.** Cigarette smoking and alcohol ingestion are strong risk factors for development of late stage and poorly differentiated laryngeal squamous cell carcinoma in Kenya.