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Letter to the editor

Concurrent oropharyngeal squamous cell carcinomas in couples

Oral squamous cell carcinomas (OSCC) and oropharyngeal squamous cell carcinomas (OPSCC) are distinct subsets of head and neck cancers, with the former predominantly attributed to carcinogen exposure (tobacco, areca nut, alcohol), and the latter, increasingly being linked to human papillomavirus infection. Several studies have linked sexual behaviors (number of lifetime sexual partners, oral sex partners) to elevated risk of OPSCC [1–3]. However, reports on HPV-related OPSCCs in couples also suggest a trend towards 'direct horizontal transmission' between intimate partners [4–9].

In this regard, Sathasivam *et al.* (Oral Oncology, 2018) have recently reported on concurrent HPV-related OPSCCs in four couples [9]. Although sexual transmission of HPV infection is well recognized, occurrence of HPV-related OPSCC in heterosexual couples is rare (5 couples reported in previous studies + 4 couples in the study by Sathasivam *et al.*). Whether this is a result of under-reporting and/or likely to increase in the future remains to be seen. As for the risk of partners of OPSCC patients, work by D'Souza *et al.* suggests low prevalence of HPV oncogenic DNA (~1%) in partners of patients with HPV + OPSCC [10]. It could be argued that other predisposing factors such as age and smoking could potentially contribute to the increased risk associated with horizontal transmission.

Review of these published studies [4–9] in couples with concurrent OPSCCs suggests the average interval between couple diagnosis appears to be short (2–26 months), although a relatively longer interval (64 months) was noted in one couple [5]. Ten of the eighteen partners (~55%) were never smokers, 5 were former smokers (10–40 years ago), 1 was a current smoker, and smoking history was not stated in 2 partners. Alcohol consumption was noticed in 6 of 18 patients (~33%), and history was not stated in 4 patients, and 8 were non-drinkers. Of the 6 patients who consumed alcohol, 2 had occasional habit and 1 was past heavy user. Based on the reported evidence, concurrent OPSCCs were more often seen at advanced age and in never smokers and less often in former smokers. The occurrence of tumors at such an advanced age (52–75 years) indicates a relatively slower carcinogenesis cascade induced by HPV, as primary infection likely occurred several decades ago during the sexually active years. Advanced age at presentation indicates the role of declining immune surveillance mechanisms, increasing vulnerability to environmental (smoking, alcohol) as well as dietary carcinogens. Interestingly, in the report of Haddad *et al.* both partners were diagnosed at a very advanced age (75 years) and were former smokers, and 1 was a past heavy user of alcohol [4]. The occurrence of concurrent HPV + OPSCC in former/current smokers also has prognostic implications as HPV + current smokers experience poor overall survival compared to never smokers [11].

With the increasing incidence of HPV + OPSCC in younger patients, these studies highlight the value of counseling patients and having candid interactions with patients and their partners as recommended by Fakhry *et al.* [12]. Although HPV + OPSCCs are higher in developed countries, it is prevalent in other parts of the world. Of the reported studies on concurrent HPV + OPSCC in couples, one study was in Japanese patients [6]. Patients and their partners in certain countries may be less open to sharing their sexual histories due to perceived stigma and cultural barriers. At the very least, a simple questionnaire to document the sexual practices of all OPSCC patients should be implemented.

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Conflict of interest

The authors do not have any conflicts to disclose.

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