# Current treatment for human papilloma virus (HPV)-related oropharyngeal squamous cell carcinoma (OPSCC)

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## ABSTRACT

**Introduction:** The incidence of oropharyngeal squamous cell carcinoma (OPSCC), particularly those associated with human papillomavirus (HPV), has been steadily increasing worldwide, with a noticeable impact on younger populations. This review aims to explore current treatment options for HPV-related OPSCC by identifying the most effective approaches, evaluating the potential risks and benefits, and discuss their influence on patient outcomes and quality of life (QOL). **Materials and Methods:** Thorough literature search was carried out by using databases like PubMed, Scopus, ScienceDirect, Web of Science, and Google Scholar. The keywords used were "HPV-positive oropharyngeal cancer", "HPV-related oropharyngeal cancer", "treatment", "therapy". Boolean operators (like AND and OR) were also used to help in narrowing the searching scope and finding relevant studies. **Results:** A total of 21 articles were included in this review. We found that cisplatin-based concurrent chemoradiotherapy (CRT) is a current preferred treatment for HPV-related OPSCC where most of the articles have stated it to be the best treatment in handling this disease especially in advanced stage of disease. This treatment resulted in higher 2-year progression free survival (PFS) and overall survival which are 92% and 95% respectively. Transoral Robotic Surgery (TORS) with radiotherapy is also labelled as the preferred method in treating HPV-related OPSCC specifically in early stage of the disease. Studies showed favourable oncologic outcomes in 2-year PFS, overall survival (80% and 86% respectively), disease specific survival and locoregional control. Other than that, the interest in reducing the toxicity from the commonly used treatment have led to the de-escalation strategy where it mainly focuses on minimizing the treatment intensity while preserving the effectiveness. This have been shown where 2-year locoregional control of 96.2%, progression-free survival of 91.1%, overall survival of 98.7%, with toxicity dropping from 2.5% to 0% were able to be achieved by using this technique. **Conclusion:** This review reveals that cisplatin-based concurrent chemoradiotherapy (CRT) remains the primary treatment method for advanced-stage while transoral robotic surgery (TORS) with radiotherapy have proven highly effective for early-stage HPV related OPSCC. Other than that, de-escalation therapy also contributes in minimizing long-term side effects while maintaining therapeutic effectiveness.

Keywords: Oropharyngeal neoplasm, Human papilloma virus, treatment, therapy