



Letter to the editor

Human papillomavirus (HPV) vaccine and HPV-related head and neck cancer: What's next?



ARTICLE INFO

Keywords:

Head neck cancer
HPV
Vaccine
Oral cavity
Oropharynx
Treatment
Radiotherapy

Head and neck cancer (HNC) represents one of the most challenging malignancies to treat in adults. During the past years, major advances in multimodal therapeutic regimen including surgery, radiation therapy and chemotherapy have helped to substantially improve prognosis and quality of life in HNC patients. Today, a significant amount of HNC is human papilloma virus (HPV) related and mainly includes patients who are aged < 60 years with early T stage and advanced nodal disease. HPV status strongly influences prognosis [1]. As a consequence, an increased number of patients with HNC have good outcomes and preventive considerations become essential to advancing the field of HNC care.

A point of discussion is whether the natural history of HPV-related HNC could be positively influenced by HPV prevention programmes for cervical cancer. At present, three HPV vaccines are licensed: (i) the bivalent vaccine, (ii) the quadrivalent vaccine and (iii) the nonavalent vaccine. A recent population projection estimates that these vaccines can prevent approximately 70%, 84% and 90% of cervical cancers, respectively [2]. Of course the vaccine does not treat pre-existing infections, therefore several generations are needed before eliminate cervical cancer as a public health problem. Due to considerable disparities within countries in term of HPV vaccination and cervical screening implementation, it has been calculated that year 2070 could be considered as possible elimination thresholds of cervical cancer cases, worldwide [2].

In this scenario, we made the assumption here that the vaccination coverage would be effective even in HNC disease. Cervical screening and HPV vaccination would be likely to result in a decrease in the number of HPV-related HNC diagnoses over the years. Although it is quite complex to explore, the secondary effect of HPV vaccination on HPV prevalence in other anatomical sites should be consider. Very few data are available to evaluate the role of prophylactic vaccination on HPV infection in head and neck region. There is no direct evidence that

the HPV vaccine prevents HNC, but a vaccine efficacy against both oral and oropharyngeal HPV infections has been demonstrated with a prevalence reduction up to 90% among vaccinated young adults [3–7]. Moreover, the rarity of HNC and the absence of precancerous lesions, especially in oropharynx, make it difficult to propose a screening program to really prevent the potential evolution of HNC. Taking all these factors together, we believe that the effectiveness of HPV vaccination in global population should be adequately supported, standardized and well organized. In fact, coverage vaccination could have a substantial effect on the burden of HNC field. For sure, it is premature to consider HPV vaccine as a definitive alternative to reduce HNC. It is only an extrapolation of the general cervical cancer experience. Longitudinal data and planned longer follow-up information, along with a cost-efficiency analysis, will facilitate to fully establish definitive conclusions to prevent HPV-related HNC.

Conflict of interest

The authors declared that there is no conflict of interest.

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F. De Felice^{a,*}, A. Polimeni^b, V. Tombolini^a

^a *Department of Radiotherapy, Policlinico Umberto I, “Sapienza” University of Rome, Rome, Italy*

^b *Department of Oral and Maxillo Facial Sciences, Policlinico Umberto I, “Sapienza” University of Rome, Rome, Italy*

E-mail address: francesca.defelice@uniroma1.it (F. De Felice).

* Corresponding author at: Department of Radiotherapy, Policlinico Umberto I, “Sapienza” University of Rome, Viale Regina Elena 326, Rome, Italy.