



## Detection of HPV in squamous cell carcinoma in Head and Neck, our first cases, January 2014 –October 2020. Salud Integral Hospital, Managua, Nicaragua.

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### Introduction:

In 1995 the International agency on cancer concluded that there was sufficient evidence for the carcinogenicity of HPV16 (Human Papilloma Virus). Sikora showed the association of oral and pharyngeal carcinoma with HPV and anogenital cancer. He found marked elevate risk of second primary anogenital tumor following oral and pharyngeal carcinoma and vice versa, this strongly support a pathogenic role for oncogenic HPV in a subset of oral and pharyngeal squamous cell carcinoma.

The epidemiology and pathophysiologic difference between HPV positive and HPV negative in oral and pharynx squamous cell carcinoma are discussed in several article, the powerful evidence that HPV status may have a significant impact in patients care and outcome.

Jatin Shah has proposed that the HPV status be considered a risk factor in this group of patients, that allow to choose the best therapeutic approach.

### Objective:

The goal of this paper is identifying the presence of HPV in biopsy specimens from patients diagnosed with squamous cell carcinoma in head and neck.

**Methods:** Descriptive study, cohort, series of cases. We have reviewed the medical record and pathology register of 43 patients diagnosed with squamous cell carcinoma in head and neck during the period January 2014 to October 2020. We selected 15 patients of with HPV test. Immunohistochemical CINtec histology (E6H4) was using, OptiView DAB IHC kit detection was used on a Ventana BenchMark ULTRA instrument . The other patients used Hybridization HPV III family 16 probe from Ventana medical system. The clinical characteristics of the patients according demographic aspect, the localization and subsites of the primary tumor, the differentiation grade of squamous cell carcinoma according WHO histological classification of tumors of head and neck 2017. TNM and clinical stage according to the American Joint Committee on Cancer (AJCC 2010). The univariable review was realized with frequency and percentage using Excel 2016.

| Results                   |                                                                                                                                  |                                                                                                |                                                               |
|---------------------------|----------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|---------------------------------------------------------------|
| <b>Universe</b>           | 43 patients diagnosed with squamous cell carcinoma in head and neck                                                              |                                                                                                |                                                               |
| <b>Sampling</b>           | 15 patients (35%) were evaluated to detect the presence of HPV in specimen biopsy                                                |                                                                                                |                                                               |
| <b>Sex</b>                | Male 9 (60%)                                                                                                                     | Female 6 (40%)                                                                                 |                                                               |
| <b>Age</b>                | Range: 31-85 years                                                                                                               | Median 53.4                                                                                    |                                                               |
|                           | <40 years: 3(20%)                                                                                                                | 41-60 years:7(47%)                                                                             | >61:5 (33%)                                                   |
| <b>History of smoking</b> | Positive 9(60%)                                                                                                                  | Negative 4(27%)                                                                                | Unknowns 2(13%)                                               |
| <b>Primary site</b>       | Oral cavity 7(47%)<br>3 Mobile tongue<br>3 Buccal mucosa<br>1 Retromolar trigone.                                                | Oropharynx 4((27%)<br>3 Tonsil<br>1 Base of tongue.                                            | Larynx 3(20%)<br>2 Glottic<br>1 Supraglottic                  |
|                           | One patient with nodal positive in the neck to metastasis with primary unknown (6%).                                             |                                                                                                |                                                               |
| <b>TNM</b>                | Oral cavity:<br>3 T2N0M0 clinic stage II<br>1 T2N1M0 clinic stage III<br>2 T3N0M0 clinic stage III.<br>1 TxN1M0 clinic stage III | Oropharynx:<br>2 T1N0M0 clinic stage I<br>1 T2N0M0 clinic stage II<br>1 T3N1M0 clinic stage IV | Larynx:<br>2 T1N0M0 clinic stage I<br>1 2N0M0 clinic stage II |
| <b>Histopathology</b>     | Well differentiate 12(80%)                                                                                                       | Moderate differentiate 1(7%)                                                                   | Poorly differentiate 2(13%)                                   |
| <b>HPV status</b>         | Using Hybridization                                                                                                              | 8(53%) negatives                                                                               |                                                               |
|                           | Immunohistochemical                                                                                                              | 5 (47%) negatives                                                                              | 2(13%) positives                                              |

**Conclusions:** The majority were young patients with a distinct age gap of 15-20 years compared with old patients. The oral cavity and oropharynx were the localization most frequent and HPV test was done, the majority with negative results. Our results compared with other papers showed that HPV infection and the behavior in squamous cell carcinoma in head and neck differs according several aspects: demographics, sexual behavior, current smoker, concurrent infection (HIV), racial disparities and other that must be studied in each population

