

## Oral Squamous Papilloma of Edentulous Mouth Interfering with Denture Retention

Nashib Pandey,<sup>1</sup> Shivalal Sharma,<sup>1</sup> Ashish Shrestha,<sup>2</sup> Vinay Marla<sup>2</sup>

<sup>1</sup>Department of Periodontology and Oral Implantology, B.P. Koirala Institute of Health Sciences, Dharan, Nepal, <sup>2</sup>Department of Oral Pathology, B.P. Koirala Institute of Health Sciences, Dharan, Nepal.

### ABSTRACT

Soft tissue overgrowths inside oral cavity can present with wide range of clinical manifestations and some of them can asymptomatic. Oral squamous papilloma is one of that asymptomatic lesion described in the literature with extremely low virulence and infectivity rate. Soft tissue overgrowths can sometimes interfere with denture retention. Here we report a case of squamous papilloma in a 60 years old edentulous female who presented with loss of denture retention.

**Keywords:** *denture retention; papilloma; sialadenoma papilliferum.*

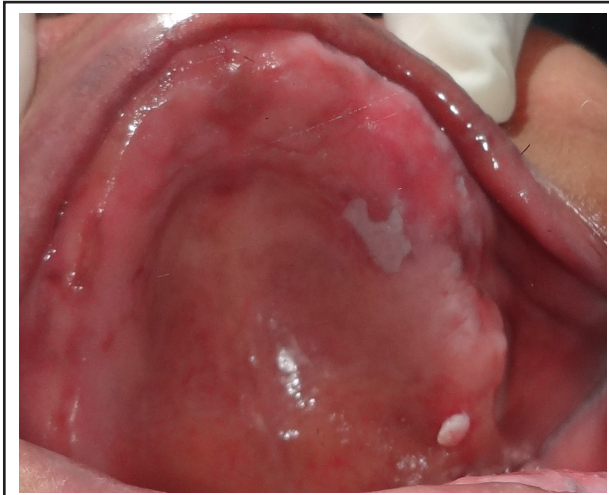
### INTRODUCTION

Oral Squamous papillomas are benign oral epithelial human papillomavirus (HPV) induced growth which presents clinically as papillary or verrucous exophytic masses.<sup>1</sup> HPV types 6, and 11 have been found to be associated with oral squamous papilloma<sup>2</sup> but some authors regard it as an incidental finding and is unrelated to the development of a squamous papilloma.<sup>3</sup> The HPV subtypes found in oral papilloma appear to have extremely low virulence and infectivity rate in contrast to other HPV induced lesions. It usually occurs in the third to fifth decades of life as an isolated small growth (< 1 cm diameter) but lesion as large as 3 cm have also been reported.<sup>4,5</sup> The most common sites for localization of the lesions include the tongue and soft palate, but any surface of the oral cavity can be affected. The color of the lesion depends on the surface keratinization and can range from pink red to even white.<sup>6</sup> These innocuous lesions which are neither transmissible nor threatening but raise concerns due to its clinical resemblance to an exophytic carcinoma.<sup>3</sup> Here we report a case of patient with oral papilloma who stepped into our hospital for the treatment not because of its appearance but she lost the retention of her existing denture.

### CASE REPORT

A 60-year-old edentulous female from Eastern Nepal reported to the College of Dental Surgery, BP Koirala Institute of Health Sciences, with a chief complaint of loss of denture retention. She presented with soft tissue overgrowth as well as whitish patch in the palate. She had the habit of cigarette smoking since her twenties. On clinical examination, a pedunculated creamish white lesion with finger like projections on its surface measuring approximately 5 x 3 mm in greatest dimension was observed on right side of the soft palate. On palpation, the growth was non-tender and firm in consistency. Another lesion with a white plaque of size approximately 9 X 5 mm was present on the hard palate away from the midline, towards the edentulous ridge in the right premolar region.

**Correspondence:** Dr. Nashib Pandey, Blue Cross Dental, Tripureshwar, Kathmandu, Nepal. E-mail: nashibpandey@gmail.com, Phone: +977-9847033701.



**Figure 1.** Clinical photograph showing the lesion.

Based on the history, clinical features and the nature of the growth a provisional diagnosis of inflammatory papillary hyperplasia was considered owing to the chronic irritation caused by denture. Differential diagnosis of squamous papilloma, sialadenoma papilliferum, fibroepithelial polyp, and condyloma acuminatum were considered.

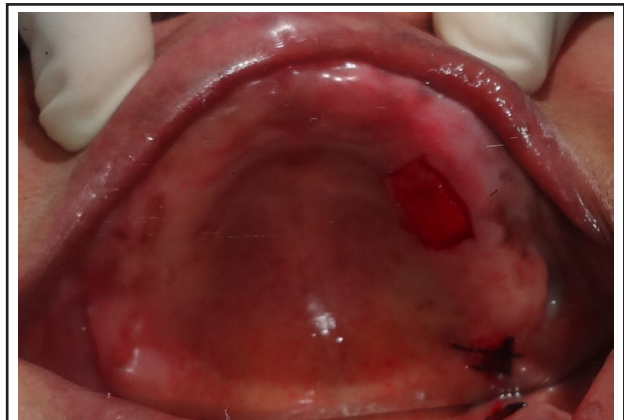
A wide local excision of the soft tissue masses were done under local anesthesia (2% lignocaine 1:200000 adrenaline) with aseptic condition and tissues were sent on 10% neutral buffered formalin for histopathological examination.



**Figure 2.** Soft tissue mass excised from posterior palate.



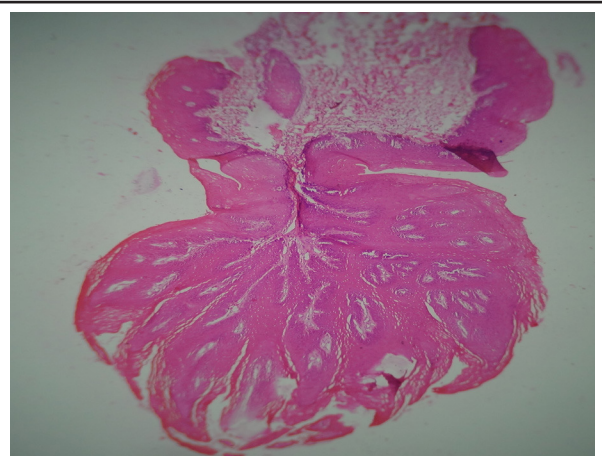
**Figure 3.** Soft tissue mass excised from anterior palate.



**Figure 4.** Immediate postoperative view.

On microscopic examination, the specimen showed hyperparakeratinized stratified squamous epithelium forming papillary projection with connective tissue core in between. The epithelial cells showed vesicular nuclei with prominent nucleoli. The underlying connective tissue stroma revealed numerous endothelial cell lined blood vessels engorged with RBCs. Mild infiltration of lymphocytes were evident deeper areas showed acini of minor salivary glands.

Based on the histopathological findings, diagnosis of oral squamous papilloma was made. The lesion from the anterior palate showed hyperkeratotic epithelium. The patient is under regular follow up visit and didn't show any signs of recurrence. New denture was fabricated after the site healed and the patient didn't complain loss of retention after that.



**Figure 5.** Histopathological photograph showing hyperparakeratinized stratified squamous epithelium forming papillary projection.



**Figure 6.** Postoperative view after 1 month with excellent healing.

## DISCUSSION

HPV- 6 & 11 have been identified in up to 50% of oral papillomas as compared with less than 5% in normal mucosal cells.<sup>6</sup> They have been reported to have extremely low virulence and infectivity rate in contrast to other HPV induced lesions.<sup>7</sup> Owing to this fact, HPV involvement in oral papilloma can be linked to an incidental finding<sup>3</sup> and this condition might actually be a reaction of the tissue to injury rather than a true neoplasia.<sup>88</sup> Although diagnosis of papilloma was based only on clinical and histopathologic characteristics of the lesion due to lack of diagnostic aids to detect HPV, the lesion in our case might be the result of tissue reaction from chronic denture irritation or even from her cigarette smoking habit. The viral presence can be confirmed with the help of PCR (polymerase chain reaction) or by in situ hybridization using radioisotope-labeled specific probes in histologic samples.<sup>9</sup>

In 12 cases reported in Brazil, Thalassaet. al, confirmed the histopathologic specimens to be compatible with viral infection as due to presence of koilocyte like cells but immunohistochemical assays for p53 protein were negative for the majority of the specimens, suggesting a benign character for the lesions and a small risk of becoming malignant.<sup>10</sup>

The sites of predilection for localization of the lesions include the tongue and soft palate, but any surface of the oral cavity can be affected. Tongue was found to be the most common site for occurrence of oral papilloma in 147 cases reported in Venezuela.<sup>11</sup> Another series of cases reported in Brazil, also found that the most prevalent site was the tongue (41.7%), followed by the palate (33.3%), lip (16.7%) and labial commissure (8.3%)<sup>10</sup> whereas in 464 cases studied at Medical college of Virginia, the palatal complex (hard, soft, and uvula) was considered the most common site of predilection with 34.3% of the total cases reported followed by tongue (23.5%).<sup>12</sup> The location of the lesion in the posterior palatal region as in our case is rich in minor salivary gland<sup>13</sup> and is also the most common site of predilection for Sialadenoma papilliferum (SP), an entity of ductal papillomas.<sup>14</sup> The clinical appearances of SP are similar to papilloma but histopathologically, it is composed of dilated salivary duct-like structures lined by double- or multiple- layered epithelium with exophytic papillary structures.<sup>14</sup> Malignant transformation of sialadenoma papilliferum have been reported by some authors.<sup>15,16</sup>

Usually squamous papilloma are asymptomatic, but symptomatic cases located at uvula interfering with swallowing has been reported in the literature.<sup>17,18</sup> In the present case, the symptom was described by the patient as loss of denture retention which compelled her to seek treatment. The complete denture retention depends upon various factors, among which base adaptation and border seal are the most important one. The force required for separation at a given rate depends inversely on the cube of separation (in a fully immersed system i.e. no air being admitted). Once air is admitted at the edges, it provides no appreciable resistance to separation in comparison with the effect of the saliva. Therefore, the fit must be uniformly good over the entire tissue surface.<sup>19</sup> Soft tissue overgrowths over the denture bearing areas may be the cause for poor base adaptation which might have led to the loss of denture retention. Inflammatory papillary hyperplasia which occurs in 3 to 4% of the denture wearers<sup>1</sup> was the diagnosis made in this case before histopathological report was made.

The gold standard treatment for the oral squamous papilloma is conservative surgical excision, including the base of the lesion and the recurrence is unlikely. Frequently, lesions have been left untreated for years



with no reported transformation into malignancy, continuous enlargement or dissemination to other parts of the oral cavity.<sup>6</sup> Papillomas are also treated by laser ablation and the exophytic lesion is excised followed by direct ablation of the lateral and deep margins.<sup>20</sup> Recently, surgical excision combined with other forms of treatment, such as systemically used interferon has been introduced.<sup>21</sup>

Soft tissue overgrowth inside denture base can be the reason for loss of denture retention and chronic irritation from denture itself can lead to the production of such overgrowth. These overgrowths may even occur in the

sites which are the most common sites for lesions having malignant potential. So, proper diagnosis, treatment and regular follow up visits should be instituted in a systematic way to prevent its transformation.

**Conflict of Interest: None.**

**Consent:** JNMA Case Report Consent Form was signed by the patient and the original is attached with the patient chart.

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