CASE REPORT

Verrucous Carcinoma (Ackerman’s Tumour) of Mobile Tongue

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Abstract

Ackerman’s tumour or Verrucous carcinoma is a unique clinico-pathological variant of squamous cell carcinoma, occurring mainly in oral cavity and larynx, buccal mucosa being most commonly involved. One case of verrucous involving tip of tongue (T1N0M0/Stage 1) in an adult male is being reported who underwent wide field surgical excision. The clinico-pathological feature of verrucous carcinoma are being discussed.

Key Words
Carcinoma, Verrucous

Introduction

Verrucous carcinoma is an uncommon but distinct variety of well differentiated squamous cell carcinoma first delineated as a clinico-pathologic entity by Ackerman in 1948 (1). Predominantly being a squamous mucosal lesion, verrucous carcinoma may also be found on cutaneous surfaces. Whether the carcinoma occur in the upper aerodigestive tract (verrucous carcinoma), on the genitalia (condyloma acuminatum), or on extremities (carcinoma cuniculatum), they are essentially the same neoplasm with slow growing, locally invasive and non-metastasizing behaviour (2). The mucosal membrane of head and neck are sites of prediction, with the oral cavity and larynx especially at the risk (2).

The macroscopic appearance of Ackerman’s tumour depends on several factors like duration of lesion, degree of keratinization and the changes in adjacent mucosa. The fully developed carcinoma in an exophytic gray to red bulky lesion with a rough, shaggy, papillomatous surface. The term “Verrucous” is used because of its fine, finger like surface projections (3). It may grow through soft tissue of cheeks, penetrate into mandible or maxilla and invade perineural space (4). Regional lymph node metastasis is rare and distant metastasis has not been reported. The cell kinetics of verrucous carcinoma are distinct, containing a thick zone of non-proliferating, non keratinizing cells between the basal germinative layer of normal squamous mucosa, lacking the S-phase cells (5) In contrast, non- verrucous squamous cell carcinoma manifests S-phase cells distribution throughout non keratinized zones. It is likely that most of cases reported in the past as oral florid papillomatosis represent early and non-invasive stage of verrucous carcinoma (6).

Case Report

A 70 year old male patient presented with an exophytic growth on tip of tongue with a rough, shaggy and papillomatous surfaces, for a period of 6 months. The growth was 2 cm x 1.0 cm in its greatest dimensions with no history of trauma, oral bleeding, dysphagia or any speech problem. On palpation, the growth was greyish white, non-friable, non-tender, with well defined raised margins and no infiltrative induration. Cervical lump nodes were not palpable. The patient underwent...
Verrucous carcinoma most of the times goes unrecognised or unchallenged due to benign indolent tumour behavior. Clinical leucoplakia often characterises the mucosa from which the neoplasm originates. Verrucous carcinoma appears to be a part of histologic continuum of leucoplakia with verrucous hyperplasia as a part of such spectrum (2) while others consider verrucous hyperplasia as a distinct clinico-pathological entity (7) with its characteristics (Table 1). In the oral cavity, verrucous carcinoma constitutes 2 to 4.5 % of all forms of squamous cell carcinoma (8) seen mainly in males above 50 years of age and having a close connection with use of tobacco especially chewing of snuff dipping. This is also associated with high incidence (37.7%) of second primary tumour synchronous or metachronous, mainly in oral mucosa (10). Verrucous carcinoma has excellent prognosis because of its slow growth and gravity with which it metastasize to regional lymph nodes (3). Later in the course the contiguous structure may be involved with time and adjacent tissues including bone and cartilage may be invaded and destroyed. Microscopically, verrucous carcinoma are usually broad based and locally invasive with papillary fronds consisting of highly differentiated squamous cell lacking usual criteria of overt malignancy. Rarely mitosis is seen. Surface is usually covered by keratin layers. The invasive margin is invariably a slow ‘pushing’ one alongwith inflammatory reaction in the stroma. Because of deceptive benign appearance of neoplastic cells, an accurate pathological diagnosis requires a sufficient biopsy specimen that contain infiltrative features of verrucous carcinoma. A focus of conventional invasive squamous cell carcinoma within the verrucous carcinoma is seen in 20 percent of patients akin to the phenomenon of anaplastic transformation in larynx (2).

Table 1. Clinico-pathological characteristics of Verrucous carcinoma

<table>
<thead>
<tr>
<th></th>
<th>Sites of prediction</th>
<th>Oral Cavity, larynx</th>
</tr>
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<tbody>
<tr>
<td>2</td>
<td>Age/Sex</td>
<td>Men over 50 years.</td>
</tr>
<tr>
<td>3</td>
<td>Habits</td>
<td>Tobacco user, poor oral hygiene.</td>
</tr>
<tr>
<td>4</td>
<td>Grade of malignancy</td>
<td>Low grade of local significance only</td>
</tr>
<tr>
<td>5</td>
<td>Metastatic</td>
<td>None in bonafide cases.</td>
</tr>
<tr>
<td>6</td>
<td>Gross appearance</td>
<td>Exophytic of fungating usually keratinizing.</td>
</tr>
<tr>
<td>7</td>
<td>Associated mucosal changes</td>
<td>Leukoplakia, metachronous or synchronous squamous cell neoplasm</td>
</tr>
<tr>
<td>8</td>
<td>Differentiation of cells</td>
<td>High grade, Uniform.</td>
</tr>
<tr>
<td>9</td>
<td>Cytologic feature of Malignancy</td>
<td>Rate to absent</td>
</tr>
<tr>
<td>10</td>
<td>Depth of lesion</td>
<td>Pushing of blunt invasion.</td>
</tr>
<tr>
<td>11</td>
<td>Cellular (host) response</td>
<td>Usually predominant.</td>
</tr>
<tr>
<td>12</td>
<td>Hybrid malignancy</td>
<td>20% of case approx.</td>
</tr>
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</table>

Discussion

Verrucous carcinoma most of the times goes unrecognised or unchallenged due to benign indolent tumour behavior. Clinical leucoplakia often characterises the mucosa from which the neoplasm originates. Verrucous carcinoma appears to be a part of histologic continuum of leucoplakia with verrucous hyperplasia as a part of such spectrum (2) while others consider verrucous hyperplasia as a distinct clinico-pathological entity (7) with its characteristics (Table 1). In the oral cavity, verrucous carcinoma constitutes 2 to 4.5 % of all forms of squamous cell carcinomas (8) seen mainly in males above 50 years of age and having a close connection with use of tobacco especially chewing of snuff dipping. This is also associated with high incidence (37.7%) of second primary tumour synchronous or metachronous, mainly in oral mucosa (10). Verrucous carcinoma has excellent prognosis because of its slow growth and gravity with which it metastasize to regional lymph nodes (3). Later in the course the contiguous structure may be involved with time and adjacent tissues including bone and cartilage may be invaded and destroyed. Microscopically, verrucous carcinoma are usually broad based and locally invasive with papillary fronds consisting of highly differentiated squamous cell lacking usual criteria of overt malignancy. Rarely mitosis is seen. Surface is usually covered by keratin layers. The invasive margin is invariably a slow ‘pushing’ one alongwith inflammatory reaction in the stroma. Because of deceptive benign appearance of neoplastic cells, an accurate pathological diagnosis requires a sufficient biopsy specimen that contain infiltrative features of verrucous carcinoma. A focus of conventional invasive squamous cell carcinoma within the verrucous carcinoma is seen in 20 percent of patients akin to the phenomenon of anaplastic transformation in larynx (2).

There is a considerable controversy in the literature regarding ‘anaplastic transformation of verrucous carcinoma following irradiation therapy in 10-20 percent cases (4,11,12,13). Following irradiationa small proportion of verrucous carcinoma are reported to have changed their biological behaviour from indlent low grade locally destructive lesion to a highly malignant, metastasizing and fatal tumor, (4,11,12,13) with extremely short latent
period of transformation. Other authors don’t believe in
this ‘dedifferentiation’ phenomenon (2,10) and account
this observation due to presence of ‘hybrid tumors’, i.e
presence of foci of less differentiated squamous cell
carcinoma within verrucous carcinoma.

Because of reported incidence of anaplastic
transformation following radiotherapy, many centres
recommend wide field surgical resection with good onco-
clearance as preferred treatment modality. While others
recommend that verrucous carcinoma should be treated
as other squamous cell carcinomas with the treatment
modality determined by effectiveness of control without
regarding the potential risk of its developing into a far
more aggressive lesion after irradiation (2,14).

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