A 28-year-old healthy male presented with the chief complaints of mobility of tooth #33, sensitivity on the lower left side of his teeth and a non-scrappable, white, fissured patch in the lower labial mucosa.

The patient had a habit of chewing smokeless tobacco for the past two to three years.

1) The most suitable differential diagnosis (D/D) is:
   a. Oral submucous fibrosis (OSF)
   b. White sponge nevus (WSN)
   c. Tobacco pouch keratosis (TPK)
   d. Verrucous carcinoma (VC)
   e. Factitial injury

   (Go to page 6 for the answer)

Let’s proceed step-by-step and assemble all the clues toward a diagnosis.

Clue No. 1
Age/sex/general health
• 28-year-old healthy male

2) We can’t exclude any differential because of the variations seen with respect to age/sex/general health, but a few things should be remembered by solving the matching exercise given below. Match the lesion with the correct age of occurrence.

a. Verrucous carcinoma (VC) occurs during old age / at birth or during early childhood.
b. White sponge nevus (WSN) occurs during old age / at birth or during early childhood.

Clue No. 2
Affecting the dentition

3) Which of the lesions given below can cause mobility and sensitivity (circle all that apply)?

a. Oral submucous fibrosis (OSF)
b. White sponge nevus (WSN)
c. Tobacco pouch keratosis (TPK)
d. Verrucous carcinoma (VC)
e. Factitial injury

Clue No. 3
Pattern and site

4) Mark scrapable (S) or non-scrappable (NS) next to the following lesions:

a. Oral submucous fibrosis (OSF)
b. White sponge nevus (WSN)
c. Tobacco pouch keratosis (TPK)
d. Verrucous carcinoma (VC)
e. Factitial injury

Clue No. 4
Pattern and site

• White fissured plaque in the lower labial mucosa.

5) Please write the D/D in front of the pattern and site given:
   a. White, thin, almost “translucent” plaque with a border that blends gradually into the surrounding mucosa. Usually in mandibular vestibule.
   b. White, thickened, shredded areas exhibiting a ragged surface.

Diagnose this ... white lesions

Part II of III

By Monica Malhotra

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(See page 6 for the answer)
Most common on the anterior buccal mucosa, labial mucosa and lateral border of tongue.

- The lesion appears as a white diffuse, broad-based, well-demarcated, painless, thick plaque with papillary or verruciform surface projections. Site often corresponds to the site of placement of tobacco, e.g., mandibular ridge or gingivae.

- Blotchy, marble-like pallor or progressive stiffness due to fibrous bands formation. Most often involves the buccal mucosa or posterior part of oral cavity.

- Symmetric, thickened, white, corrugated or velvety, diffuse plaques. Affect the buccal mucosa bilaterally.

**Clue No. 5**

Chewing smokeless tobacco for the past two to three years.

**6) Mark chewer (C) or non-chewer (NC) next to the following lesions:**

- a. Oral submucous fibrosis
- b. White sponge nevus
- c. Tobacco pouch keratosis
- d. Verrucous carcinoma
- e. Factitial injury

- At this point, we have three D/Ds to work upon (excluding OSF and WSN).
- Other features that would help us reach the diagnosis include the following.

**Facial injury (morasicalo bucarum/labiorum/linguaram)**

- Due to chronic chewing/sucking on mucosa. Associated with stress or psychologic condition.
- Patients are generally aware of this habit.
- Infrequently combined with intervening zones of erythema, erosion or focal traumatic ulceration.

**Verrucous carcinoma vs. TPK**

- Chronic tobacco chewing or snuff.
- Typically in the area where the tobacco is habitually placed, e.g., mandibular vestibule.

**Identifying features of VC**

- Old age
- Usually becomes extensive before diagnosis
- “Verrucae” show white, well-demarcated, thick plaque with papillary or verruciform surface projections (VC can become a D/D only in the very early stages because later it shows verrucae formation).
- Thus, we made a diagnosis of tobacco pouch keratosis.

**Going further**

7) Mark true (T) or false (F) next to the following questions:

- a. This lesion can also occur because of smoking tobacco. **F**
- b. This is a pre-cancerous lesion. **T**
- c. Develops shortly after heavy tobacco use and remains unchanged indefinitely unless is habit altered. **T**
- d. It is seen at the same site where the coarsely cut tobacco leaves or finely ground tobacco leaves (“snuff”) are kept. **T**
- e. Stretching of mucosa reveals a distinct “pouch” (snuff pouch, tobacco pouch) caused by flaccidity in the chronically stretched tissues. **T**
- f. Histologically, shows parakeratin chevrons, acanthosis, intracellular vacuolization and unusual deposition of amorphous eosinophilic material in connective tissue and salivary glands. **T**
- g. Epithelial dysplasia is uncommon (if present, mild).

**Treatment and prognosis**

8) Mark true (T) or false (F) next to the following questions:

- a. Malignant transformation potential of TPK is low. **T**
- b. Biopsy is needed only for more severe lesions. **T**
- c. Alternating the tobacco chewing sites between left and right sides will eliminate/reduce. **T**

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**About the author**

Dr. Monica Malhotra is an assistant professor at the Sudha Bastaiga Dental College in India and also maintains a private practice. Malhotra completed her master’s in oral pathology at the Manipal Institute, India, in 2009. In 2008 she was presented with a national award for the best scientific study presentation by the Indian Association of Oral and Maxillofacial Pathology. You may contact her at drmonicamalhotra@yahoo.com.