

(Mis)Interpretations of Leukoplakia

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Leukoplakia is a common lesion observed in clinical practice and the term is familiar to most clinicians. Upon reviewing the literature, one comes across a number of different definitions and classifications of leukoplakia. This term is used indiscriminately in textbooks and journal articles to describe white keratotic lesions. The misuse of the term leukoplakia can lead to misinterpretations of patient records and create confusion among dentists. The purpose of reporting on this ambiguity is to make academicians and clinicians aware of the widespread misuse of this term in the literature and to develop clarity for future scientific communications.

In 1978, a World Health Organization (WHO) group defined leukoplakia as “a white patch or plaque that cannot be characterized, clinically or pathologically, as any other disease.”¹ The accompanying text emphasized that the term leukoplakia should carry no histologic connotation and should only be used in a descriptive clinical sense.

This definition is vague. If a patient has a white patch or plaque in the mouth, it is clearly abnormal. Any abnormality will have some clinical or pathologic basis. Yet the WHO definition states that leukoplakia is a patch having no clinical or pathologic basis. This raises the question, “What is this white patch?”

Another popular definition of leukoplakia states that “leukoplakia is a whitish patch or plaque that cannot be characterized, clinically or pathologically, as any other disease and it is not associated with any physical or clinical causative agent except the use of tobacco.”² This definition reserves the term leukoplakia for white lesions associated with tobacco consumption only. The authors suggest that the terms idiopathic leukoplakia and tobacco-associated leukoplakia be used.² However, this terminology is not routinely employed as there is no rationale for distinguishing tobacco-associated leukoplakias from non-tobacco-associated or idiopathic leukoplakias.³

In 1996, a new definition of leukoplakia was proposed which stated that “oral leukoplakia is a predominantly white lesion of the oral mucosa that cannot be characterized

as any other definable lesion; some oral leukoplakias will transform into cancer.”⁴ In the accompanying guidelines for use of the term leukoplakia, it was suggested that when there is a white lesion for which a local cause can be identified, the lesion should be classified according to the established cause and not included among leukoplakias. The guidelines further state that when a white patch is associated with a disease or pathology, it should not be designated as leukoplakia but should be termed as a leukoplakic-like lesion associated with the known cause.

Although the 1996 definition is most widely accepted,⁴ different definitions continue to appear in textbooks and journals. This misuse of the term leukoplakia creates confusion among readers.

For example, it has been suggested that “mechanical trauma of a chronic and mild nature produces whitish leukoplakial patches.”⁵ Leukoplakia has also been described as a protective reaction against a chronic irritant (e.g., occlusal trauma, sharp edges of prostheses or teeth) that produces a dense layer of keratin, which insulates the deeper epithelial components from the deleterious effects of the irritant.⁶ Such statements are confusing, as this patch has a known clinical cause and should be termed frictional keratosis, not leukoplakia.

Terminology such as sanguinaria-induced leukoplakia and Viadent-induced leukoplakia is also frequently encountered in textbooks.⁷ Sanguinaria is a benzophenanthridine alkaloid derived from bloodroot plant (*Sanguinaria canadensis*) and has been used in oral rinses and toothpaste products since 1982.⁷ Routine use of sanguinaria-based products causes leukoplakia in the maxillary vestibule.^{7,8} When the cause of the oral lesion is known (in this example, a chemical constituent of some dentifrices), how can the term leukoplakia be used to describe it? Terminology like sanguinaria-induced lichenoid reaction or sanguinaria-induced keratosis is more appropriate to describe such lesions. Use of terms like oral hairy leukoplakia, candidal leukoplakia and syphilitic leukoplakia also appear as

misnomers for etiological cause, as each of these conditions is well-known and established.

White patch associated with dyskeratosis congenita, or Cole-Engman syndrome, is another example of the erroneous use of the term leukoplakia. This condition is rare but when reported in the literature, it is referred to as Zinsser-Cole-Engman syndrome associated with leukoplakia of the tongue.⁹ Dyskeratosis congenita is characterized by the triad of oral leukoplakia, nail dystrophy and skin pigmentation.¹⁰ White patch associated with dyskeratosis congenita is an X-linked disorder and part of a syndrome that therefore has a known cause. To define it as leukoplakia is inappropriate. It is better to describe these white patches as leukoplakia-like lesions associated with dyskeratosis congenita.

Terminology used to describe a lesion provides information as to its biological behaviour and prognosis. Leukoplakia is a premalignant lesion in which the chances of malignancies occurring are greater than normal tissues. The majority of lesions like oral hairy leukoplakia, candidal leukoplakia or frictional keratosis are benign. It is therefore inappropriate to use the term leukoplakia to describe these lesions. This term can make patients fearful of cancer and create unnecessary panic. It is impossible to correct the entire existing literature but clinicians, students and teachers should be made aware of the misuse of this term. In future publications, as well as in clinical practice, we should use the appropriate term to avoid misinterpretation and confusion. The current ambiguity emphasizes the need for an international collaboration to reach a consensus on the use of the term leukoplakia. ♦

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