

THE PROFESSIONAL ROLE OF THE DENTIST UNDER THE ASPECTS OF PRECANCER AND CANCER DIAGNOSIS AND MANAGEMENT

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ABSTRACT: The dentist may play an important role in prevention, diagnosis and management of oral precancer and cancer. However, detection of precancerous lesions and early malignancies is possible only through careful and systematic clinical examination. Knowledge of the clinical appearance and understanding of the clinical course of e.g. leukoplakia, erythroplakia and lichenoid reactions as well as of early malignancy signs is mandatory. The dentist should be aware of when to institute own therapeutic measures and when to make referral to specialists. Systemic and local predisposing factors for the development should be analysed and, if possible, reduced or eliminated. This includes cooperation with the medical profession for establishing a good general physical as well as mental health status of the patient. The dentist also has to analyse and evaluate promoting factors such as tobacco and alcohol consumption and to support changes of habits. Programmes aiming at changing or stopping habits may be implemented in cooperation between dentist and physician.

Key words: erythroplakia; leukoplakia; lichen; habits; alcohol, tobacco

Traditionally, diagnostic and therapeutic efforts by dentists have largely been focused on treatment of caries and periodontitis. However, it has been increasingly emphasized that the role of the dentist and also research in dentistry should widen its scope (1). Thus, several conditions in addition to the sequela of caries and periodontitis cause pain and discomfort. Moreover, the oral mucosa is the site of several precancerous lesions and conditions and of malignant tumours. Thus, it is obvious that the dentist may play an important role in early detection and proper management of those lesions. There are two fundamental aspects

for the general practitioner to consider, careful and proper examination and knowledge of clinical appearance of oral precancer and cancer.

The importance of a systematic examination of the oral cavity in every one patient can not be emphasized enough. A thorough examination and evaluation of every area of the oral cavity is mandatory whatever the reason is for consultation. Frequently, the areas of the root of the tongue and the floor of the mouth are overlooked. These areas are prevalent sites of premalignancies and tumours.

Oral precancer comprises primarily leukoplakias,

erythroplakias and lichen planus/lichenoid reactions (2). In addition, submucous fibrosis is an important precancerous condition to consider in areas of the world where chewing of betel quids is practised (3).

Leukoplakia may be defined as 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 chemical causative agent except the use of tobacco (2). In epidemiological studies throughout the world, the prevalence rate of leukoplakia has been estimated to be 1-4 per cent in various populations (4). Malignant transformation has been reported to occur in about 1-6% per cent within 5-10 years and even as high an incidence rate as 17.5% within 8 years has been reported (5). Leukoplakias may be subdivided clinically into homogeneous or non-homogeneous and etiologically into idiopathic (cryptogenic) or tobacco-associated lesions (2).

Homogeneous leukoplakias may very well be managed and supervised by a general practitioner. However, it should be emphasized that lesions on the lip, on the tongue and especially in the floor of the mouth seem to carry high risks for malignant changes. Even rather innocent looking floor of the mouth lesions may all of a sudden develop into malignancy. Thus, such leukoplakias should promptly be referred to a specialist and they should be aggressively treated preferably by excision. A similar approach is recommended for idiopathic (cryptogenic) leukoplakias which are comparatively few in number but have been shown to carry a higher risk for malignant transformation than tobacco-associated lesions (5). Also the tobacco-associated lesions should be managed cautiously. In addition to topical treatment of the lesions, it is of tremendous importance to inform the patient on the association between leukoplakia and tobacco habits, especially smoking habits, and also the relationship to excessive consumption of alcohol. Tobacco and alcohol in combination, but also in separate, probably play an important role for malignant development (6).

To avoid recurrence after treatment it is of paramount importance for the patient to reduce excessive tobacco and alcohol consumption. For accomplishing this, the dentist should advantageously cooperate with the medical profession and institute efficient programmes. Included in these programmes could be medical administration of nicotine (Nicorette® for aiding cessation of smoking.

Erythroplakia carries as even higher risk than leukoplakia for malignant transformation (7). Erythroplakia may be defined as a lesion of the mucosa that presents as a bright red patch or plaque that cannot be characterized clinically or pathologically as any other condition (2). At an international meeting in Nagoya, Japan in 1992 it was suggested that the presence of dysplasia should be used as an additional criterion. The prevalence of erythroplakia is a rather low, probably below one per ten thousand (8), but taken into consideration its serious outcome the dentist should be very careful about red spots or patches. Erythroplakias should always be referred to specialists for management. As for leukoplakias, lesions in the floor of the mouth probably have a close association to tobacco and alcohol consumption.

Knowledge of early malignancy signs is, of course, tremendously important for the dentist. Among these signs are ulcerations, which are not healing within a week and also when they are of unknown nature. Further, papules and nodules on a red background should also be looked upon with suspicion. On the lips, keratinization in combination with red areas and tendency to chronic ulceration are signs of great importance as are chronic ulcers. Even if there are benign conditions with similar appearance, such changes should yet always cause a prompt referral to a specialist.

Lichen planus and so called lichenoid reactions show a broad spectrum of clinical signs (3). The prevalence has been estimated to be about 0,1-2 per cent (4). It is a precancerous condition (2) and the malignant transformation has been reported to occur in about 1,5 per cent in 7,5 years (9). Thus, it should be considered as a serious condition and managed accordingly. Lichen is probably a general reaction pattern of the body and sometimes with a hypersensitivity component. Thus, it has been shown that lichenoid reactions could be triggered by, for instance dental restoration materials (10). It has been shown that a patch test of the back sometimes is positive in patients with those reactions. Most frequently this hypersensitivity has been shown to mercury (11). However, a positive treatment result after change of restoration material may be registered irrespective of a positive skin patch test. Thus, the patch tests in these cases should not be considered as a prerequisite for the exchange of material.

When dealing with oral premalignancy and malignancy it should also be emphasized that

general health status is important to consider. A classical example is the Paterson-Brown Kelly/Plummer-Vinson syndrome, earlier prevalent in middle-aged Swedish women (3). Deficiency of iron gives rise to a hypochromic, microcytic anemia which obviously promotes the development of cancer in the oral cavity and oesophagus. Maybe, the immunological system is impaired by the iron deficiency thereby suppressing defense to tumour development. Thus, it is important to look after general health of the patients. In cooperation with physicians any suspected deficiency of iron, vitamins etc. should be explored and supplementary diet or medicines instituted.

Lichen planus has for long been suspected to have a psychosomatic trait. A recent study has lent support to this assumption (12). In isolated cases, with a broad social and medical approach to the treatment of mental stress, lichenoid reactions have been registered to regress considerably. This is probably a promising approach in future treatment of patients with lichenoid reactions. Research with collaboration between the dental and medical professions could probably bring about substantial future knowledge for the benefit of patients suffering from lichen planus/lichenoid reactions.

In conclusion, the general practitioner should consider the following on the subject of oral precancer:

1. Carefully and properly make a systematic routine examination of the total oral cavity irrespective of cause for consultation
2. Recognize white and red patches and to judge which of those patches may possibly be at risk for malignant transformation
3. Provide prompt referral to specialist for lesions with suspected clinical signs of malignancy, especially ulcerations of unknown nature and which do not heal within one week after removal of trauma
4. Cooperate with the medical profession in programmes for cessation of tobacco habits and excessive alcohol consumption
5. Cooperate with the medical profession on suspected nutritional deficiencies in patients with oral precancer
6. Cooperate with the medical profession on the resolution of physical and mental stress

in patients with lichen planus/lichenoid reactions when appropriate.

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