

## **Early Diagnostics And Risk Factors Of Precancer Diseases Of Oral Mucosa**

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**To cite this article:**

M.S. Abdullakhodjaeva, Kh.P. Kamilov, A.A. Kadirbaeva. Early Diagnostics And Risk Factors Of Precancer Diseases Of Oral Mucosa. *Journal of research in health science*. Vol. 1, No. 3, 2018, pp. 9-12.

DOI 10.26739/2523-1243

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<http://dx.doi.org/10.26739/2523-1243/-2018-1-3-2>

**Abstract:** The current practice of diagnosis and treatment of precancerous processes of the mucous membrane does not provide for the improvement of medical statistics, as evidenced by the admission to oncologic institutions of patients with missed forms of cancer of the oral cavity. With the variety of modern diagnostic methods for diagnosis of precancerous conditions, the question of an early, minimally invasive technique is topical issue.

Currently, Republic Pathology Centre of the Ministry of Health of the Republic of Uzbekistan together with the Institute of Electronics of Sciences of Uzbekistan Academy have designed studies of cervical cancer method using an inverted microscope Axiovert 40 MAT (CarlZeiss, Germany), in which dispersed lighting particles were found (DLP) on the surface of epithelial cells in cancer by the method of AK (Abdullahodzhaeva-Krakhmaleva). 98 patients at age from 35 to 78 including 55 male and 43 female were examined in Department of Hospital Therapeutic Dentistry, Tashkent sate Dental Institute. We have determined dispersed luminous particles (DLP) under inverted metallographic microscope at the base of Republic Pathology Centre.

The presence of the DLP suggests that the body has begun the process of malignancy. These particles can be intracellular or extracellular, they are determined not only in pathological cells, but also in cells adjacent to the disposed mucosa, as well as in blood cells.

Early detection of potential precancerous processes avoids intervention methods of diagnosis, and also reduces the risk of cancer of the oral mucosa.

**Keywords:** oral mucosa, precancerous lesions, DLP, diagnostics, leukoplakia, oral lichen planus.

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Oral lesions may appear as atrophic, dystrophic, disturbance of blood current, inflammation, anomalies and tumors in the form of chaps, nodules, persisting ulcers, papillary formation, infiltrates, which have tendency to growth. 50% of cases showed fast growth and degeneration characterized for ulcerous form. Secondary inflammation of lesions can hide the tumor -like lesions continuing to degenerate to tumors or cancer during diagnostics. [1, 2]

**The World Health Organization classifies oral precancerous/ potentially malignant disorders into 2 groups general of, as with follows: [10]**

- A precancerous lesion is "a morphologically altered tissue in which oral cancer is more likely to occur than its apparently normal counterpart." These precancerous lesions include leukoplakia, erythroplakia, and the palatal lesions of reverse smokers. [9]

- A precancerous condition is "a generalized state associated with significantly increased risk of cancer." The precancerous conditions include submucous fibrosis, lichen planus, epidermolysis bullosa, and discoid lupus erythematosus.

The emergence of oral cavity cancer contribute to bad habits: smoking tobacco, drinking alcohol, use of NAS (tobacco ash, lime et al.), professional hazard (in contact with the products of petroleum refining, heavy metal salts), misbalanced dental health and poor oral hygiene mouth, chronic injury (bad set dentures, tooth crown destroyed, sharp edge of fillings) - are responsible for the occurrence of 80% of the observations of the oral mucosa cancer [8]. Alcohol use has also been implicated as a risk factor for the development of oral premalignant

lesions. Not uniformly accepted although to have a role in the development of oral cancer, studies have shown that moderate to heavy drinkers have a 3-9 times is greater risk of developing cancer. [9] In fact, the heavy use of alcohol and tobacco combined may convey a risk greater than 100 population general of the times. [5]

The role of human papillomavirus (HPV) in the development of oral premalignant disorders continues to undergo investigation. HPV types 16 and 18 may be found in approximately 22% and 14 of oropharyngeal tumors %, [6] a recent study and demonstrated the DNA of HPV in 17.6% of lesions of oral leukoplakia and 19.7% of the samples of oral lichen planus. [7]

Malignancy of erosive and verrucous leukoplakia, papilloma and papillomatosis, cutaneous horns and keratoacanthoma occurs in 15% of cases, while other optional precancerous diseases do in 6%. The initial period of development of oral cancer is often asymptomatic. During this period, more than 10% of the changes in the mucous passes by doctors at the examination. Only 25% of patients have pain, but more than half of the cases, the pain is associated with other causes: a toothache, sore throat, neuralgia [4,10].

These data indicate a potential for the transformation of these diseases to cancer, which further deteriorates the health and social indicators, predicts surgical treatments contributes to disability and is the other undesirable social complications

Oral cancer accounts for approximately 3% of all of malignancies in the United States, and approximately 25,000-30,000 of cases of oral cancer are diagnosed each year's. [8] Cancer of the oral mucosa and oropharynx occurs in male

more often than female with ratio 3: 1. Oral cancer is one of most common all of malignancies in Southeast Asia, accounting for close up to 30-40% of malignancies in all of India. [9] Precancerous lesions up according to the literature 15.2-84.9% of all diseases oral mucosa [4]. In the development of precancerous processes addictions, such as smoking and alcohol abuse, play an important role, as they are responsible for the occurrence of 80% of cancer observations of oral mucosa, and their synergistic effect risk is increased by 100 times [3]. The peak incidence occurs in the age group 70 years and steadily growing number of young patients.

Oral cancer occurs most commonly in middle- aged and elderly individuals; however, recent evidence suggests these demographics may be changing. For most registered cancer of the lower lip in the southern regions of Kazakhstan and in some areas of Uzbekistan, this is associated with a bad habit to lay NAS, a mixture of tobacco and lime, between the lower lip and gum. There is same habit among the inhabitants of the province of Bihar (India), where it is called as "Betel".

In spite of variety of diagnostic methods for determination of cancer and precancerous lesions, there is not enough information about minimal invasive technique of diagnostics of oral lesions.

The object of the study was to determine the optimal method for diagnostics of precancerous processes, as well as cancer of the oral mucosa using minimally invasive methods of examination.

Materials and methods of research. 98 patients at age from 35 to 78 including 55 male and 43 female were examined in Department of Hospital Therapeutic

Dentistry, Tashkent state Dental Institute. We have determined dispersed luminous particles (DLP) under inverted metallographic microscope at the base of Republic Pathology Centre. The mean age of male patients with oral premalignant lesions was 46, female one was 66.

The Republic pathologic center of the Ministry of Health of the Republic of Uzbekistan together with the Institute of Electronics of the Academy of Sciences of the Republic of Uzbekistan (Krakhmalev VA, 2004-2006) conducted a study of cervical cancer using an inverted microscope, during which dispersed luminous particles (DLP) were discovered on the surface of epithelial cells for cervical cancer by the method of AK (Abdullahodzhaeva-Krakhmaleva, "Express method for diagnosing cervical cancer in women" - UZ IAP 03856 dated 23.12.2008 Abdullakhodjaeva M.S, Tursunov Kh.Z., Krakhmalev V.A, Khakberdieva D.M, Yuldasheva N .SH.).

The presence of the DLP indicates that the malignancy process has begun in the body. These particles can be intracellular or extracellular, they are determined not only in pathological cells, but also in cells adjacent to the disposed mucosa, as well as in blood cells. DLP can sometimes appear in small amounts (often sporadically) with certain inflammatory processes, which makes it possible to diagnose preclinical manifestations of cancer. Impression smears are taken twice from one lesion: one smear is stained by the method of Romanovsky or Papanicolaou, the second one is simply dried without a fixer (to determine the DLP).

All the patients gave their consent to participate in research and filled in

questionnaire on possible risk factors of development of oral premalignant lesions. As a result, 5 patients had a bad habit to bite cheek or lip (5.1%), 8 patients had strong stress in anamnesis (8.2%), 15 patients had inadequate crowns or dentures (15.2%), 28 patients were smokers for approximately 15-20 years (28.5%) and 42 patients were NAS addict (42.9%).

DLP certainly appear apiece or as gathering inside or between cells, which make cells luminous, in patients with malignant tumors or lesions tending to malign. DLP were determined in 30 patients examined. Among them there were 20 patients with leukoplakia, 8 patients with erosive form of lichen planus, 2 patients with dysplasia of oral mucosa. 2

patients with dysplasia of oral mucosa of tongue had significant picture of DLP gathering both inside and between the cells. 15 patients with leukoplakia of on line of teeth closure and 1 patient with erosive-ulcerous form of lichen planus on cheek had positive DLP between the cells, although cytology had not revealed cell metaplasia, so these cases should be considered potential premalignant. DLP were absent in 12 examined patients with oral pathology including 5 patients with leukoplakia and 7 patients with typical form of lichen planus.

Revealing and determination of potential malignant transforming pathology of oral mucosa allows avoiding invasive diagnostics and decreasing risk of cancer development.

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