

## **Clinical-Laboratory Examination of Dental Diseases in Chemical Industry Workers**

**Mukhsinova Lola Anvarovna**  
Bukhara State Medical Institute

**Abstract:** The question of negative conditions in the oral cavity of workers in the chemical industry remains relevant. It has been proven that the high prevalence of non-carious lesions of the teeth and oral mucosa is associated with production processes such as oil and gas extraction, metallurgy, chemical production, baking and confectionery.

**Keywords:** Teeth eruption, anomalies, tooth roots, genetic syndromes.

Prevention and health of dental diseases helps to maintain the working ability of an important part of the country's population - workers of industrial enterprises, especially a number of studies reliably reveal the role of teeth and surrounding tissues in the general condition of the body [1].

It has been proven that there is a high risk of occupational diseases among workers in the industry. It is related to the intake of compounds of elements into the human body through the oral cavity. Industrial workers are characterized by a high prevalence of dental caries and inflammatory periodontal diseases [4].

Chemical substances of the industrial air environment were detected in oral fluid, hard tissues of teeth, and biopsy samples of the structure of the mucous membrane of the oral cavity. They increase the progression of dental caries due to the exchange of calcium ions in hydroxyapatite crystals, chronic inflammation in periodontal tissues, damage to the integrity of the epithelium of the oral mucosa [6].

But the impact of industrial chemical factors on the oral cavity of workers, the consequences of these effects have not been fully studied. Taking this into account, the need to continue dental, clinical, functional and microbiological research on this issue has not lost its relevance [2,5].

On the basis of dental medical examination, results of special and additional examination of the oral cavity and evaluation of the working conditions from the sanitary and hygienic point of view, it was determined that there are unpleasant sanitary and hygienic factors in the working conditions of the workers, which affect the entire body of the workers and it causes a number of general and dental diseases due to the negative impact on the tissues of the oral cavity [4,7].

One of the main features of oral cavity diseases found among the workers of "Navoiyazot" enterprise is that they have more damage to the mucous membrane of the oral cavity and periodontal tissue. Allergic stomatitis is the most common among them (44.5%), 5.7 times more than the control group (7.7%) [3,6].

27.4% - 41.8% of periodontal tissue diseases that occur among workers due to the direct effect of harmful factors specific to their professional description or observed in the working conditions of the enterprise. In the control group, these diseases occur 2 times less (14.1% - 21.4%). It should be noted that the observed changes in the oral cavity are accompanied by reddening, swelling,

itching, grinding of the teeth, soreness of the tongue, tickling of the upper respiratory tract, and rapid sneezing [1,4].

### **The goal**

Clinical-laboratory examination of dental diseases in chemical industry workers and identification of modern treatment methods .

### **Research material**

Examining patients is aimed at making a correct diagnosis of their diseases and choosing treatment methods. Any changes observed in the patient's body during the examination should be approached very carefully. Because this condition can help in determining the etiological factors of general and dental diseases observed in the body. One of the main conditions for examining patients is to study their complaints. Studying patients' complaints is one of the main stages of diagnosing the disease.

But to make an accurate diagnosis of the disease and to choose the right treatment measures, it is necessary to take into account the general state of the patient's body.

Therefore, methods of collecting general and special anamnestic data in diagnosis are different.

Diseases of the oral cavity among employees of the "Navoiyazot" enterprise help to determine the degree of impact of common diseases on the organs of the oral cavity. Because the changes in the oral cavity can appear as a symptom of the common accompanying diseases observed in the patient's body. In addition, the identification of general diseases in the patient's body helps to determine the indications and contraindications for the selection of anesthetics used in the local anesthesia planned for the patient.

A special anamnesis collection aims to study the patients' complaints related to the maxillofacial area. For this, patients are supposed to tell about their complaints, and additional questions are asked in order to find out when they appeared, the reason, and the characteristics of their course.

Pain is one of the main reasons for patients to visit a dentist. Pain may occur: in dental diseases (caries, non-caries lesions, pulpitis, periodontitis), periodontal disease (gingivitis, periodontitis, periodontosis) and oral mucosa (stomatitis), and pain may occur in the face-jaw area.

In dental caries and noncaries diseases, there is pain in the dental area under the influence of external influences (mechanical, thermal, and chemical), and the pain stops when the influence ends.

Pain in the pulpitis complains of pain without cause, which occurs at night and is aggravated by external influences.

In periodontitis, the patient complains of constant, throbbing pain that worsens when biting.

In periodontal diseases, patients complain of bleeding gums, teeth grinding, and in some cases, tooth loss in addition to pain.

In diseases of the oral mucosa, patients complain of dryness of the mouth, redness and ulceration of the mucous membrane, as well as bad breath.

1470 patients aged 19-55 years and older who were undergoing treatment with oral cavity diseases among the employees of the "Navoiyazot" enterprise were examined. Patients aged 19 to 55 years and older were considered to be at high risk of poisoning from chemical production. Age levels of patients were compiled according to the WHO classification (Table 1). 568 (38.6%) age group from 19 to 29 years old, 354 (24.1%) age group 30-39 years old, 450 patients aged 40-54 years old (30.6%), 98 patients It was in the range of 55 years and older (6.67 %).

**Table 1. Age levels of patients when employees of the "Navoiazot" enterprise were examined**

Age	Research methods			
	Main		Control	
	Number of patients	%	Number of patients	%
19-29 years old	568	38.6	86	53.75
30-39 years old	354	24.1	42	26,25
40-54 years old	450	30.6	22	13.75
Over 55 years old	98	6.67	10	6.25
Total	1470	100	160	100

The average age of patients is  $30 \pm 39$  years. As can be seen from the given data (Table 1), 1470 patients aged 19-55 years and older (90.1%) with oral cavity diseases among workers of the "Navoiazot" enterprise. The control group was age-matched with the main group.

The inspection begins with a sanitary-hygienic assessment of working conditions in chemical industry workplaces and shops. For this purpose, the results of inspections carried out every year are studied by the employees of the sanitary-epidemiological control center. Then the condition of the oral cavity and maxillofacial area of the workers suffering from various diseases is assessed. In this, changes in the mucous membrane of the oral cavity, periodontium, lips, lungs are detected, and special and additional examination methods are performed.

Studying the general anamnesis helps to determine the degree of impact of general diseases in the patient's body on the organs of the oral cavity. Because the changes in the oral cavity can be manifested as a sign of the common accompanying diseases observed in the patient's body. In addition, the identification of general diseases in the patient's body helps to determine the indications and contraindications for the selection of anesthetics used in the local anesthesia planned for the patient.

A special anamnesis collection aims to study the patients' complaints related to the maxillofacial area. For this, patients are supposed to tell about their complaints, and additional questions are asked in order to find out when they appeared, the reason, and the characteristics of their course.

Pain is one of the main reasons for patients to visit a dentist. There may be pain: in dental diseases (caries, non-caries wounds, pulpitis, periodontitis), periodontal disease (gingivitis, periodontitis, periodontosis) and oral mucosa (stomatitis), and pain may be in the face-jaw area, for example, a sign of myocardial infarction, osteochondrosis diseases. in order to determine which disease is characteristic of the pain, its characteristics are studied.

In dental caries and noncaries diseases, there is pain in the dental area under the influence of external influences (mechanical, thermal, and chemical), and the pain stops when the influence ends.

Pain in the pulpitis complains of pain without cause, which occurs at night and is aggravated by external influences.

In periodontitis, the patient complains of constant, throbbing pain that worsens when biting.

In periodontal diseases, patients complain of bleeding gums, teeth grinding, and in some cases, tooth loss in addition to pain.

In diseases of the oral mucosa, patients complain of dryness of the mouth, redness and ulceration of the mucous membrane, as well as bad breath.

#### **Research methods:**

1. Dental (visual, instrumental, instrumental stomatological examination ).

2. Microbiological methods of studying samples of oral fluid in the oral cavity ( microscopic examination , local examination).
3. Histological research methods: reactive changes in the gastrointestinal tract with various diseases.

The oral cavity, tongue , lips . Rubbing, scraping and removal of traces from the surface of the mucous membrane of the oral cavity. Examination of the inner surface of the lungs along the line of closing the teeth, the hard and soft palate, the retromolar, sublingual area of the bottom of the mouth, the inner surface of the lips, the corners of the mouth, the red border of the lips, the lips.

4. Statistics (variational statistics, correlation analysis, OR, RR).

### Results obtained and discussion

In the results of the study conducted in patients with oral diseases caused by chemical poisoning, a high significant frequency of the main dental diseases in the oral cavity was determined in the comparative study of patients with patients in the control group (Table 2). The rates of primary dental disease in patients with oral disease caused by chemical poisoning showed a significantly higher frequency of primary dental disease compared to patients in the control group. But it is especially high in patients with oral diseases caused by chemical poisoning, compared to both controls and patients with primary poisoning.

**Table 2. Prevalence of major dental diseases in patients with oral diseases caused by chemical poisoning and in the control group**

Forms	Dental diseases					
	Dental caries		Gingivitis		Periodontitis	
	Number of patients	%	Number of patients	%	Number of patients	%
Baseline n=74	54	72.9	28	37.8	18	24.3
Control n=41	35	85.3	27	65.9	16	39.0

The intensity of caries in patients with oral diseases caused by chemical poisoning was reliably higher in both the first and second age groups compared to the data obtained from patients of the control group. In the first age group, KPU+kp was equal to  $5.19 \pm 0.10$ , in the second group -  $5.21 \pm 0.10$ .  $2.14 \pm 0.06$  and  $1.95 \pm 0.04$  in the control group, respectively. The conducted studies proved the high prevalence and intensity of caries in both studied groups in patients with oral diseases caused by chemical poisoning. It should be mentioned that caries in permanent teeth is early and aggressive, and caries complications such as pulpitis and periodontitis develop in a short period of time, while the main disease is almost asymptomatic against the background of strong, anti-inflammatory therapy. It was determined that the beginning of caries disease is in the period of eruption of permanent teeth or in the first year of eruption of teeth, as well as the presence of several carious cavities in the crown parts of permanent teeth. In patients with diseases of the oral cavity caused by chemical poisoning, the specificity of dental caries is the nature of its reproduction, the presence of several carious cavities in 1 tooth (up to 3-4). It was found that caries is found not only in the typical dental areas, but also in the pre-neck areas.

### Conclusions:

1. When planning complex treatment of basic dental diseases for patients with oral cavity diseases caused by chemical poisoning, it is necessary to take into account the high level of morbidity of oral cavity organs.
2. Patients with diseases of the oral cavity caused by chemical poisoning should use additional tools for the prevention and treatment of dental caries and periodontal diseases, along with increasing dental knowledge and hygiene education.

3. The regenerative properties of the quercetin powder drug are manifested in accelerated wound healing. Quertin powders are highly active in the treatment of periodontal diseases, treatment of erosive and ulcerative diseases of the mucous membrane of the oral cavity, and purulent-inflammatory diseases of soft tissues . Quertin powders should be used in practice.

## References

1. Mukhsinova L. A. et al. Cytokine Profile in Patients with Congenital Cleft Upper Lip and Palate //European Journal of Research Development and Sustainability. – 2021. – Т. 2. – №. 4. – С. 91-93.
2. Anvarovna M. L. Clinical and laboratory methods of studying children with dentoalvial anomalies in facial development //european journal of modern medicine and practice. – 2023. – Т. 3. – №. 3. – С. 37-41.
3. Lapina N.V. Pokaseteli kachestva jizni - kak subjective otsenka funktsionalnogo sostoyaniya stomatologicheskikh bolnyx s neuroticheskimi rasstroystvami do i posle orthopedicheskogo lecheniya // Kazanskaya nauka. 2011. No. 2. S. 240-243.
4. Sadulloeva I. K. Characteristics of immune system and functions of endocrine secretion in children with congenital heart disease after surgical correction //Ёш олимлар Республика илмий-амалий анжумани илмий ишлар тўплами. Термиз. – 2017. – С. 135-136.
5. Fozilov U. A. Diagnosis And Prevention Of Caries Development In Orthodontic Treatment //World Bulletin of Social Sciences. – 2021. – Т. 3. – №. 10. – С. 97-104.
6. Fozilov U. A. Prevention of caries development during orthodontic treatment //World Bulletin of Social Sciences. – 2021. – Т. 3. – №. 10. – С. 61-66.
7. Abdurazzakovich F. U. The Role and Importance of Obturators in the Optimization of the Treatment of Dental Caries //European Journal of Research Development and Sustainability. – 2021. – Т. 2. – №. 6. – С. 84-86.
8. Fozilov, U. A., and Olimov S. Sh. "Improving The Treatment of Abnormal Bite Caused by Severe Damage To The Jaw." *Journal of Advanced Zoology* 44.S-5 (2023): 370-378.
9. Abdurazzakovich F. U. Development of innovative diagnostic and prophylactic dental obturators aimed at preventing the development of caries and its complications in the orthodontic treatment of patients. – 2021.
10. Fozilov U. A. Evaluation of the efficiency of Demineralizing Agents in Treatment with Removable and Fixed Orthodontic Equipment in Children //International Journal on integrated Education. – 2020. – Т. 3. – №. 7. – С. 141-145.
11. Fozilov U. A. Clinical and Diagnostic Characteristics of the Development of Tooth Decay in Children During Orthodontic Treatment with Removable and Non-removable Equipment //JournalNX. – С. 227-228.
12. Nasyrov R.T., Mannanova F.F., Novikova L.B. Puti uluchshenia kachestva jizni u bolnyx s defectami zubov i zubnyx ryadov v protesse ix reabilitatsii. Meditsinsky vestnik Bashkortostan. 2009. T. 4. No. 4. S. 35-38.
13. Perepelkina N.Yu., Shmatov K.V. Ispolzovanie dvukh metodik dlya otsenki kachestva jizni patsientov posle vypolneniya u nix protezirovaniya zubov // Obshchestvennoe zdorove i zdravohranenie. 2012. #2. S. 12-13.
14. Sakhapova G.F., Gerasimova L.P., Ka-birova M.F., Yanturina N.Kh. Kachestvo jizni patsientov s mnojestvennoy myelomay v zavisimosti ot dlitelnosti osnovnogo zabolevaniya // MEDLINE, 2011. T. 12. Oncology. URL: [http://www.medline.ru/public/pdf/12\\_069.pdf](http://www.medline.ru/public/pdf/12_069.pdf) (data obrascheniya: 28.09.2012).

15. Inoyatov A. S., Mukhsinova L. A. Physiological and pathological aspects of tooth eruption and formation of occlusion in children: a literature REVIEW //PalArch's Journal of Archaeology of Egypt/Egyptology. – 2020. – T. 17. – №. 6. – C. 13892-13900.
16. MUKHSINOVA L. A. The Influence of Anomalies of the Dentition on the Timing of Teething //International Journal of Progressive Sciences and Technologies. – 2020. – T. 23. – №. 2. – C. 655-660.
17. Mukhsinova L. A., Sharopov S. G. Immunological status in sick children with congenital cleft upper lip and palate //Euro-Asia Conferences. – 2021. – T. 4. – №. 1. – C. 135-136.