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TO THE HEALTH OF THE ORAL CAVITY OF DISEASES OF INTERNAL ORGANS EFFECTS AND TREATMENT MEASURES

Orifjonova Mubina, Ilhomjonov Shehrozbek, Abdulhakimov Muhammadziyo

Students of the direction of Dentistry of Andijan branch of Kokand University

Email: orifjonovam41@gmail.com

Annotation. In this article, the impact of diseases of internal organs on the health of the oral cavity is covered on a medical-theoretical basis. The oral cavity is considered as an important indicator that reflects the general state of Health in the human body. The study analyzed the specific clinical signs that occur in the oral cavity of diseases of the gastrointestinal system, liver, cardiovascular, kidney and endocrine systems, their diagnostic and prognostic significance. In particular, the origin of conditions such as gastroesophageal reflux, cirrhosis of the liver, diabetes mellitus, periodontitis, glossitis and stomatitis, the mechanism of development and its relationship to the oral cavity have been substantiated by examples. The article also shows the possibilities of diagnosing and prophylactic diseases of internal organs by early detection of changes in the oral cavity. This serves as an important factor in the overall health assessment of symptoms of internal diseases in dental practice.

Keywords: oral cavity, diseases of internal organs, gastroesophageal reflux (GERD), diabetes, liver diseases, kidney failure, periodontitis, saliva diagnosis, stomatitis, immune weakn

Introduction: Oral cavity-general health mirror: oral cavity is the first address to reflect the state of internal organs. Because some problems that occur in the mouth can also affect other parts of the body. The full health of the oral cavity is one indicator of a person's overall health.For example:

Changes in the tongue: the appearance of a white, yellow or gray layer on the tongue can refer to diseases of the gastrointestinal system or liver; bleeding gums: can be a sign of diabetes mellitus, vitamin C deficiency or periodontitis; mouth sores: indicate weakened immunity, stress, or chronic inflammatory diseases; diagnostic significance of saliva: saliva is an important source for diagnostics, since it is a mirror of; changes in pH: may be associated with liver disease, diabetes or kidney failure; antibodies and markers: markers indicating viruses, bacteria, or other pathological processes may be identified in the saliva. For example, tests for hepatitis or COVID-19.

Gastrointestinal system and oral cavity

Gastroesophageal reflux disease (GERD) and tooth enamel erosion: in patients with GERD, tooth enamel is weakened due to the return of acid from the stomach to the oral cavity, which increases the erosion and sensitivity of the teeth.

Connection of Helicobacter pylori infection with bad breath odor: H. pylori is a bacterium that lives in the gastrointestinal system and causes ulcers and gastritis. The gases produced by this bacterium cause bad breath odor.

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Crohn's disease and the effect of ulcerative colitis on oral ulcers: these inflammatory bowel diseases can cause ulcers and swelling of the mucous membrane not only in the gastrointestinal system, but also in the oral cavity.

Liver and gallbladder diseases: liver cirrhosis and changes observed in the oral cavity in hepatitis: liver diseases can cause inflammation in the mouth, swelling and redness of the gums.There is a feeling of changes in the tongue, yellowness or metal taste.

In the case of liver failure, an unpleasant breath odor is observed, similar to a characteristic putrefactive or "yeast" smell from the mouth. This is due to a violation of the metabolism of substances such as phenylalanine and methionine.

Liver diseases can disrupt the body's fluid balance, leading to dry mouth and decreased salivation. This can damage the health of the teeth and mouth.

Endocrine system problems

Diabetes and oral dryness (xerostomia): dry mouth, i.e. xerostomia, is common in diabetes. This condition is caused by reduced salivation (consequent salivation)in the mouth. Build-up in the mouth can damage teeth, exacerbate infections, and cause wounds and stains in the mouth.

Oral dryness is more common in diabetes due to decreased saliva production. This condition increases the risk of dental caries and infections.

Increased incidence of milk diseases in diabetes: impaired blood circulation in diabetes and increased inflammatory processes lead to a deterioration in the tissues around the gums. Periodontitis is observed as a sign of diabetes.

High blood sugar levels alter blood circulation in the mouth, which can lead to gengiva problems. As a result of this, the teeth are weakened and easily damaged.

Diseases of the cardiovascular system: in patients with heart disease, infections in the mouth, especially inflammations in the oral cavity, are more common. Bacteria in the mouth penetrate the heart and promote the development of infections, which damage the functioning of the heart and vascular system.

Association between heart disease and periodontitis: periodontitis can be associated with cardiovascular disease because inflammatory points (e.g. C-reactive protein) cause vascular damage.

Periodontitis can increase the risk of heart disease, such as a heart attack or stroke. Bacteria spread from parodontitis through the blood to other organs, causing inflammation in the blood vessels. This inflammation, on the other hand, can lead to a state of hardening of the blood vessels and atherosclerosis (the narrowing of the blood vessels by overflowing with fat).

Hypercholesterolemia and changes in the oral cavity: high cholesterol leads to inflammation of the gums and the formation of plaques in the blood vessels, which affect the development of periodontitis.

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Kidney diseases: kidney diseases sometimes lead to decreased blood circulation and immune system function, which can lead to problems such as gingivitis or bleeding in the mouth.

Kidney failure and "ammonia smell": in kidney failure, the amount of nitrogenous waste excreted through the blood increases, which causes the "ammonia smell" to escape from the mouth

Chronic kidney failure, infections in the mouth, and neglect of oral hygiene can lead to tooth loss.

A decrease in kidney function disrupts the acid-base balance in the body. This can lead to weakening of gums and teeth, as well as damage to the mucous membrane in the mouth.

Effects of internal organ diseases on oral health

Common signs in the mouth: inflammation (stomatitis ,glossitis, gingivitis):

Stomatitis: the appearance of inflammation on the mucous membrane of the mouth. it is an inflammation that occurs in the oral cavity, usually in the teeth, tongue, lips or other parts of the mouth. This condition can cause pain, redness, swelling, and the appearance of wounds. The causes of stomatitis can vary, including viruses, bacteria, trigger foods, stress, or weakened immune systems.

Usually for the treatment of stomatitis, it is necessary to pay attention to medications or oral hygiene in order to reduce inflammation and relieve pain. It can be a sign of vitamin B12 or iron deficiency, diabetes, or diseases of the gastrointestinal system.

Glossitis: is an inflammation of the tongue that can cause redness, swelling, and sometimes pain in the tongue. Glossitis is often caused by factors such as infections, vitamin and mineral deficiencies, allergic reactions, taking certain medications, or ignoring oral hygiene. This condition can also be associated with stress or weakening of the imunity system

Symptoms of glossitis can be changes in the color of the tongue, a feeling of pain. Redness and swelling of the tongue can be associated with liver diseases, anemia or endocrine disorders.

Gingivitis: is an inflammation of the gums (gingiva). This mainly leads to redness, swelling and bleeding of the flesh around the teeth. The most common cause of gingivitis is Planck and bacteria that accumulate in the teeth, which multiply due to poor oral hygiene. It is associated with inflammation of the gums, diseases of the cardiovascular system, diabetes or weakened immunity.

Wounds and spots:

Wounds: due to Crohn's disease, ulcerative colitis, or stress, wounds can form in the mouth.

1. Bacterial or viral infections: when cleaning teeth or contracting an infection in the oral cavity and other factors.

2. Stress: physical or mental stress can cause mouth sores to appear.

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3. Deficiency of vitamins or minerals: deficiency of a, B12, folic acid or iron can cause ulcers in the mouth.

4. Food allergies: certain foods, such as citrus fruits or spicy foods, can cause ulcers to form in the mouth.

5. Oral hygiene disorders: not cleaning teeth completely or using dental floss.

Spots: in liver diseases, yellow or brown spots are observed on the oral mucosa.

Aphthous stomatitis (mouth sores): small, whitish spots or sores that are usually painful and can occur in different places in the oral cavity.

Gingivitis: redness, swelling and sometimes spots can occur as a result of inflammation of the gums.

Spots from natural damage: spots on the inside of the mouth can sometimes arise from damage with food, hard materials used in cleaning teeth, or some tools.

Dental diseases

Enamel decay and damage (diseases associated with GERD, vomiting):diseases such as GERD or bulimia cause acids to repeatedly leak into the mouth, which causes tooth enamel to erode and increase tooth sensitivity.This process not only weakens the teeth, but the teeth can turn yellow and spoil the appearance.

The role of toxins and kidney diseases that accumulate between the teeth:due to kidney failure, toxins do not come out of the body, which leads to swelling of the gums and the appearance of infections around the teeth.These toxins accumulate between the teeth, causing them to weaken.

Milk diseases

Diabetes and predisposition to bleeding: in diabetes, the gums are sensitive and can bleed more often due to weakened blood vessels.Inflammation of the gums and infections are more common in patients with diabetes.

Diseases of the cardiovascular system and periodontitis:periodontitis stands among the symptoms or causes of cardiovascular diseases.An increase in inflammatory points increases the risk of heart disease.

Saddle changes

Decreased saliva production (xerostomia): xerostomia can occur as a side effect of diabetes, liver disease, or certain medications.This condition leads to the accumulation of bacteria in the mouth, dental diseases and bad breath.

Worsening of the smell of breath

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1. Oral hygiene: carelessness in cleaning teeth and keeping the mouth clean can lead to a deterioration in the smell of breath. Bad breath appears in the mouth due to the lack of removal of food residues and bacteria on the teeth.

2. Dental diseases: problems such as gingivitis, periodontitis or tooth aging can be the cause of bad breath in the mouth.

3. Dry mouth (xerostomia): dry mouth creates a problem when T saliva (oral water) is not produced and the oral cavity is cleaned. This can lead to bacterial growth.

4. Foods: some foods, such as garlic, onion, coffee, or alcohol, can worsen breath odor.

5. Cigarette smoking: Smoking Tobacco causes a bad breath odor and can increase bacteria in the mouth.

6. Infections: bacterial or fungal infections in the mouth, such as pharyngitis or sinusitis, can cause a worsening of the breath odor.

7. Internal diseases: some internal diseases, such as diacrete, liver diseases or kidney diseases, can cause changes in the smell of breath. Sometimes the deterioration of your breathing can be due to diabetes, liver disease, or other systems.

In women, changes in hormone levels during pregnancy or menopause can cause bad breath to appear in the oral cavity.Infections or dead tissue (e.g. caries) in the roots of the teeth are also responsible for the appearance of a foul odor in the mouth.

Treatment measures and preventive methods

1. Measures for diseases of the Gastrointestinal system

GERD treatment: the most important measures in the treatment of diseases of the Gastrointestinal system are a healthy diet, proper use of medications, adherence to hygiene and lifestyle changes. A healthy diet involves limiting fatty, spicy and harmful products that harm the digestive system, consuming water in an adequate micdo rda. Medicines should be prescribed by a doctor, which may include agents that reduce acid production, probiotics, anti-inflammatory and antibiotics.

Compliance with hygiene rules, especially attention to the cleanliness of food and water, can help prevent infections. It is also important to reduce stress, avoid smoking and alcohol through lifestyle changes. If symptoms persist or worsen, it is necessary to see a doctor in time.

Anti-acid drugs: Proton pump inhibitors (omeprazole, pantoprazole) or antacids (almagel) reduce stomach acid and help control reflux.

Dental protection: to protect your teeth, it is important to clean your teeth every morning and evening using fluoride toothpaste.

After eating, it is necessary to rinse the mouth and use dental floss, as this will remove bacteria and food debris between the teeth. Teeth should not be brushed immediately after acidic drinks,

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as this can increase enamel erosion. Limiting sweet and sticky products, eating foods rich in calcium and phosphorus can help strengthen tooth enamel.

Antiseptic mouthwashes reduce bacteria and improve oral hygiene. Going to the dentist every six months, professional teeth cleaning and early detection of problems ensure that the teeth are healthy for a long time.

Elimination of Helicobacter pylori:

Therapy consisting of two or three different drugs is often used to kill the bacterium:

1. Antibiotics: H. two different antibiotics (e.g. amoxicillin, clarithromycin) are usually recommended for the treatment of pylori infection. They are applied to kill the bacterium.

2. Proton pump inhibitors (PPI): used to reduce acidity in the stomach (omeprazole, Pantoprazole). These drugs help restore the gastric mucosa and increase the effectiveness of antibiotics.

3. Bismuth preparations: drugs such as bismuth subsalycylate help protect the stomach wall and kill the bacterium.The course of treatment usually lasts 10-14 days.

For liver and kidney diseases:

The following measures are important to protect the liver and kidneys and maintain their health:

1. Healthy eating: fatty, salty and sugary foods should be avoided so that the liver and kidneys are not overloaded. It is necessary to eat more vegetables, fruits and foods rich in fiber.

Drinking enough water improves the cleansing function of the liver and kidneys.

2. Alcohol avoidance: alcohol should be avoided to protect the liver, as they can damage the liver. The kidneys are also sensitive to alcohol, so they should not be consumed too much.

3.Taking drugs and drugs with caution: medicines should only be taken on the recommendation of a doctor. Some medications can damage the liver and kidneys. Avoid self-medication without modification.

4. Physical activity: increased movement, weight control and regular exercise ensure a healthy liver and commands.

5. Control of high blood pressure and diabetes: it is necessary to control situations that threaten the health of the liver and kidneys, such as high blood pressure and diabetes mellitus.Including these in the lifestyle can help maintain the health of the liver and kidneys.

For diseases of the endocrine system

In the treatment of diseases of the endocrine system, the restoration of hormonal balance in the body is the main goal. For this, special drugs or hormonal therapy are prescribed by the doctor. A healthy diet is important and it is recommended to follow a diet according to the body's needs. Managing stress, regular physical activity, and following a healthy lifestyle can help improve

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hormonal activity. In any discomfort or change, contacting an endocrinologist and regularly submitting the necessary analyzes will increase the effectiveness of treatment. It is important to take timely diagnostic and therapeutic measures to prevent the disease or reduce its complications.Diabetes control and elimination of dryness in the oral cavity:diabetes management: constant control of blood sugar.Taking medications that stabilize sugar levels (insulin or glucose-lowering drugs).

Oral hygiene

Compliance with the correct daily hygiene rules:

Brush your teeth at least twice a day and use dental floss.

Replacing the toothbrush every three months.

Antibacterial detergents and special fluoride pastes:

Mouthwashes such as antibacterial chlorhexidine or Listerine reduce inflammation.

Fluoride toothpastes strengthen the enamel and prevent caries.

Preventive measures

Healthy eating and avoiding acidic products:

Adherence to a balanced diet, restriction of sugar and acidic drinks.

Eating foods rich in vitamins and minerals.

Early detection and treatment of diseases of the internal organ:

1. Detection and treatment of liver, kidney and heart diseases at an early stage through regular examination.

1. Monitoring the activity of the gastrointestinal system.
2. Routine examination with dentist and therapist:
3. Go to the dentist's examination once every 6 months.
4. Consultation with an internal medicine therapist

Studies between internal organ diseases and Dentistry

Statistics (association between periodontitis and heart disease): studies show that patients with periodontitis have a 20-30% higher risk of cardiovascular disease than other patients.Inflammation points show a strong correlation between periodontitis and atherosclerosis.

According to the National Health Center, compliance with oral hygiene can reduce the risk of heart disease.

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Studies on reflux and tooth enamel erosion: more than 70% of patients with GERD experience erosion of tooth enamel.Studies show that when exposed to stomach acid, the sensitivity of the teeth increases and they are prone to mechanical damage.

Practical examples.

1.Dental weakness in GERD-associated patients: in a 45-year-old patient diagnosed with GERD, the enamel of the front teeth is significantly eroded due to the return of stomach acid. During dental procedures, it was recommended to use fluoride agents and take anti-acid drugs.

Result: the condition of the patient's teeth improved due to reflux control and special medical procedures for 6 months.

Importance of gastroenterologist and dentist collaboration: GERD and Dentistry: early detection and treatment of oral cavity damage in reflux disease patients is effective when the gastroenterologist and dentist work together.

Patients diagnosed with GERD have positive results as a result of the dentist's recommendation of fluoride pastes and special detergents, and the gastroenterologist prescribes anti-acid drugs.

Patients with GERD are advised to clean teeth regularly, use dental floss, and clean the mouth. Tooth erosion can be prevented by cleaning the mouth from acidic substances and bacteria.

Diabetes and dentistry: through the collaboration of the endocrinologist with the dentist, it is easier to manage inflammation of the gums in diabetics. Treatment of gingivitis or periodontitis at an early stage helps to improve the condition of the teeth and flesh.

Jointly developed plans for blood sugar control and improved oral hygiene will significantly improve the condition of patients. Keeping sugar levels in the norm will keep bacteria from growing and keep the mouth healthy.

This approach makes it possible to ensure the full treatment of patients and control diseases of the internal organ through the oral cavity.

Conclusion: The relationship between internal organ diseases and oral cavity health plays an important role in ensuring the overall health of the body. Violation of microflora in the oral cavity or poor oral hygiene can cause inflammatory processes in the internal organs. However, the health of internal organs, such as liver, kidney, heart and diabetes, can worsen oral problems or further complicate inflammation in the mouth.Taking into account this interdependence, it is effective in maintaining the internal organs and oral cavity together, improving the overall health of the body. Therefore, regular dental examinations, proper oral care and monitoring of the condition of internal organs, help to detect and prevent diseases early. Early treatment of oral problems helps to keep not only oral health, but the whole organism healthy.

Oral health not only improves the condition of the teeth and gums, but also the protective system of the whole organism, metabolism and the functioning of the immune system. If there are persistent inflammations, infections and bacteria in the mouth, they can spread through the blood to other organs and lead to the development of acute diseases, such as heart disease, kidney failure or even chronic diseases.Also, the treatment of problems in the oral cavity helps to

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improve the functioning of internal organs. For example, proper treatment of infections in the oral cavity can help protect the liver and kidneys. On the contrary, diseases in internal organs can aggravate problems in the mouth, lead to deterioration of teeth, inflammation in the mouth.

In addition, a healthy condition in the oral cavity plays an important role in controlling the body's metabolic processes and inflammatory processes. However, by regularly examining and cleaning the oral cavity, it is possible to control the health of internal organs and diagnose diseases at an early stage.In general, taking into account the connection between internal organs and oral cavity helps to support health in a complex way.

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