

Prevention of Fluorosis in People Living In Endemic Areas

Khaydarova Durdona Munisovna

Department of Therapeutic Stomatology, Samarkand State Medical University

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Annotation: Dental fluorosis is a dental pathology caused by an excess of fluoride. It is epidemic and chronic in nature. This is common in some areas where there is an excess of fluoride in the drinking water. In this article, we will tell you how to detect the disease in time and how to protect yourself from fluorosis.

Keywords: Dental fluorosis, Disease classification, Disease manifestation, treatment and prevention.

What are the causes of pathology?

According to generally accepted sanitary standards, the maximum concentration of fluorine compounds in water should not exceed 1.5 mg/l. But it should be remembered that fluoride enters the body through breathing and food. An excess amount of this trace element has a negative effect on tooth enamel and begins to destroy it. If you do not consult a doctor in time, bone tissue pathologies may develop - osteoporosis or osteosclerosis.

Important! The occurrence of the disease is related to the individual characteristics of the body. Sometimes fluorosis develops at a low concentration of fluoride.

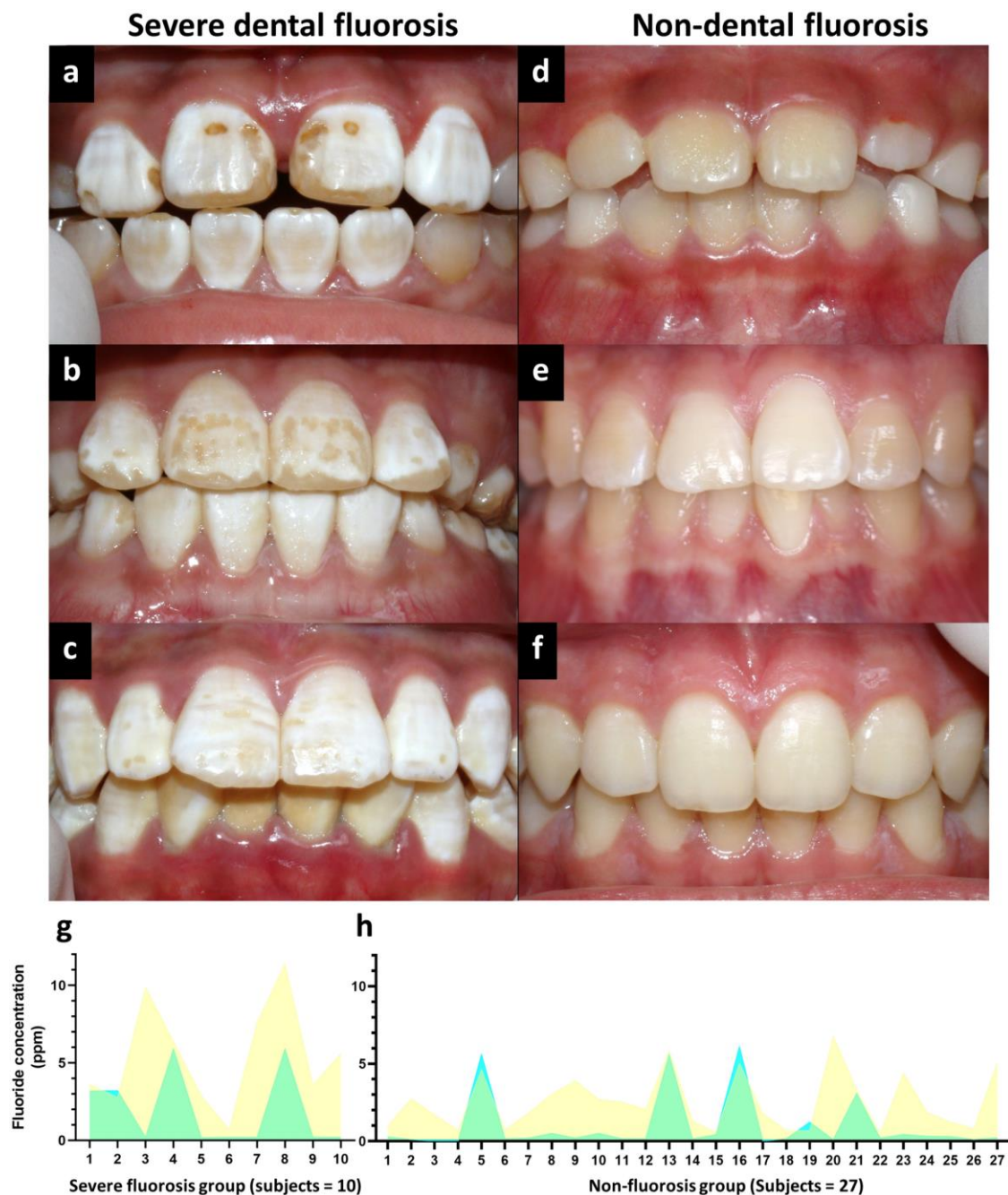
Mainly permanent teeth are affected, in rare cases - milk teeth in children. This is due to the mineralization of the baby's first teeth beginning and ending during intrauterine development. At this time, the placenta protects the child's body from excess fluoride. But if a pregnant woman lives in an area where the amount of fluoride compounds in the water exceeds the norm, the disease can also affect the child's milk teeth.

Children aged 3-4 are at risk if they have been drinking water with high levels of fluoridated compounds for 3 or more years. This disease is also diagnosed in adults who work in industries with high levels of fluoride in the air.

Classification of the disease

dental fluorosis, depending on the severity of the pathology, the following forms are distinguished: Streaked - characterized by the appearance of small lines or lines on the surface of the tooth. The

upper jaw is often affected by this form. The lines are weak and not always visible independently. Over time, they merge into one point, where the strokes can also be distinguished.



Spotted - this form is characterized by the presence of several chalky spots. They are well defined and located on the entire surface of the tooth. When drained, large spots are formed.

The chalky modified form is characterized by the presence of an affected light brown area that turns into healthy enamel. This lesion is often observed in the upper and lower incisors.

Chalky - characterized by the presence of clearly pigmented spots. Sometimes there may be a variant of the presence of several points in the yellow-colored enamel. With this form, rapid thinning of the enamel is observed.

Erosive - in addition to stains on the enamel, erosive defects appear. They contribute to the destruction of not only enamel, but also dentin.

Destructive is the most severe form, in which the shape of the crown of the tooth is destroyed. This is caused by the thinning of the enamel and the destruction of hard tooth tissue. The teeth themselves are very fragile, prone to various injuries (chips, fractures).

The disease can occur in mild, moderate and severe degrees. It depends on the number of affected teeth, as well as the depth of the pathological process. In severe cases, the patient damages more than 80% of the teeth. In this case, dentin is affected and crown deformation is observed. Fluorosis can also cause pathological changes in skeletal bones.

Manifestation of the disease

Symptoms depend on the form and severity of the disease. At the very beginning (in the stage of spotted or linear form), discolored areas appear on the surface of the tooth. Lines and lines are also visible. The enamel itself is rough and small bumps appear.

Later, small spots lead to the formation of larger pathological areas. Homogeneous mineralization of tooth enamel occurs. It breaks down and takes on a dull, dull color. At the same time, smoothness and shine are lost.

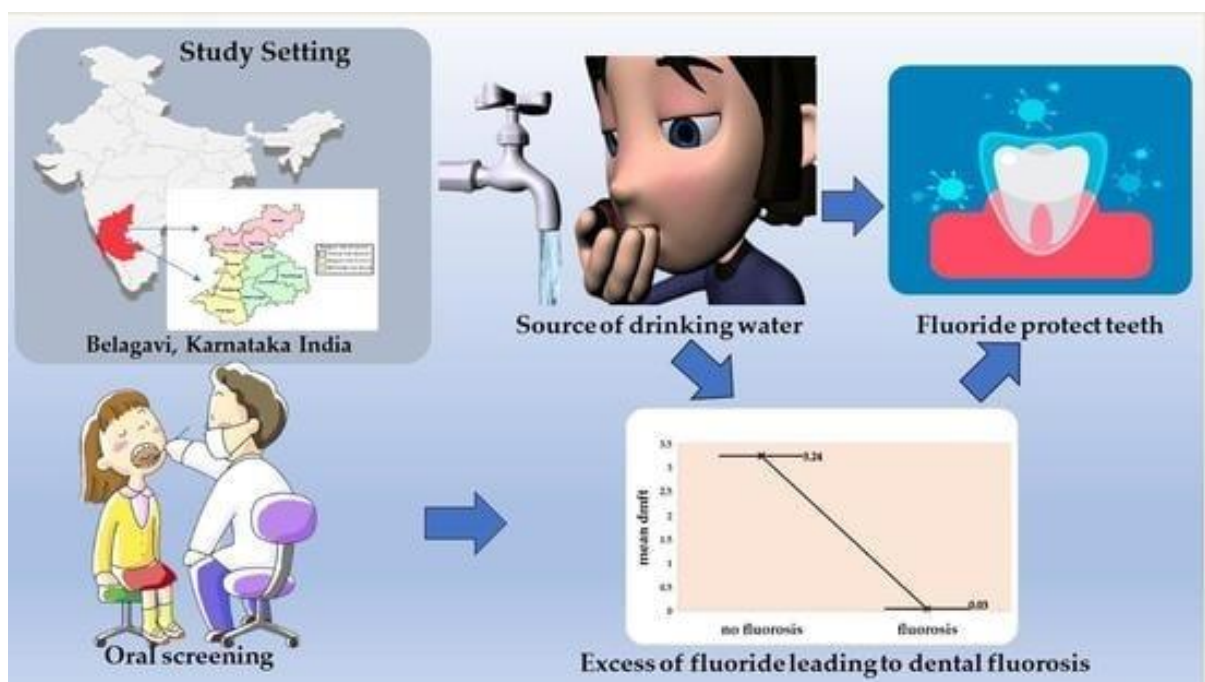
A person with fluorosis complains:

1. increase sensitivity to temperature stimuli;
2. a cosmetic defect, because the color of the enamel is yellow or light brown;
3. fragility and rapid wear of teeth;
4. frequent breakdowns;
5. many caries.

X-rays detect areas of decreased density, which indicates the process of demineralization, that is, the reduction of mineral substances in the enamel. It is for this reason that coloring substances can penetrate into the porous structure of the tooth surface, which leads to the appearance of pigmented areas.

Dental fluorosis: treatment and prevention

dental fluorosis 2.jpgDiagnosis is made at the dentist's appointment. Only a specialist can distinguish the manifestation of fluorosis from chalk, which is the initial stage of caries. An important distinguishing feature is that fluorine stains are abundant in nature and affect permanent teeth almost immediately after eruption. In the spot phase, initial caries is observed in single teeth.



Treatment is selected individually and depends on how seriously the enamel is damaged. At the initial stage of the disease, after strengthening the enamel with the help of remineralization, it is

recommended to conduct a professional whitening course.

In this case, whitening is done with a soft composition based on inorganic acids. The number of procedures is chosen by the doctor. Usually at least 10 sessions. It is recommended to take calcium supplements during the whitening period. The result lasts 6-8 months, then a second course of professional cleaning and whitening is required.

The remineralization process helps to strengthen the structure of enamel, saturates it with minerals. Calcium and phosphorus compounds enter the dentin and restore the enamel from the inside. This procedure is carried out in several ways:

Applications with special composition.

Electrophoresis or phonophoresis.

Wearing active gel mouthguards.

On average, at least 15 procedures are prescribed. Before the procedure, complete sanitation of the oral cavity is mandatory.

If the disease has already spread to the dentin, then simple whitening will be ineffective. Methods of aesthetic restoration of the tooth are used for moderate severity of fluorosis:

installation of ceramic coatings;

restoring the shape and color of teeth with the help of crowns.

Such methods are recommended not only for aesthetic purposes, but also for medicinal purposes. They help stop further tooth decay and reduce enamel sensitivity.

Home care is also important - use fluoride toothpaste, take vitamin and mineral complexes, reduce fluoride intake from water and food.

How to prevent the development of the disease dental fluorosis The main preventive measure against fluorosis is to control the amount of fluoride in drinking water, as well as in the air. Such measures are especially important for areas where fluoride levels in public water supplies have been found to exceed the norm. Such events are held at the state level.

On an individual basis, it is recommended to use purchased purified water for drinking or to use tap filters for additional purification. At the same time, it is important to engage in prevention from the moment the child is born. A pregnant woman should be especially careful when choosing food and drinking water. Additional intake of vitamins C, D and calcium gluconate can reduce the risk of fluorosis several times, especially in children.

When the baby is born, it is recommended to breastfeed him for as long as possible. After introducing complementary foods, use juices or dairy products instead of water if possible. If you live permanently in an endemic area, you should take your children to other areas every year to improve your health. Changing the water source for 3-4 months helps to strengthen tooth enamel and stop the development of the disease.

An important point in disease prevention is nutrition. Limit or eliminate products containing fluoride. These are sea fish, nuts, spinach, seaweed. You should eat more fresh vegetables or fruits.

In addition, after consulting a doctor, you can use medicated remineralizing toothpastes or applications at home.

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