

X-Ray Examination Methods for Diagnosing and Treating Chronic Apical Periodontitis

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Relevance of the study. Dentistry is considered one of the fastest growing medical specialties. Its diagnostic capabilities are constantly improving. However, despite this, there are many errors in the diagnosis and treatment of aggravated caries, the identification of the causes of odontogenic sinusitis, repeated endodontic treatment, and the conduct of resection operas in the apical socket of the root. Chronic apical periodontitis is one of the most common diseases that leads to tooth removal. A well-established diagnosis as well as a monand-selected treatment allows you to avoid complications that lead to tooth loss.

When examining patients with suspected chronic apical periodontitis, an analysis of subjective (complaints, Anamnesis) and objective (examination, percussion, palpation, dental radiography) studies is primary. Determining the condition of periapical tissues, the presence and expression of their damage, conducting the correct differential diagnosis, assessing the quality of endodontic treatment, the degree of obturation of the root canals, the dynamics and prognosis of the disease – all this makes it possible to study modern visualization methods.

Radiological Research Methods are fundamental in the diagnosis of the periapical inflammatory process. In applied dentistry, traditional radiology methods are oral dental radiography as well as orthopantomography [2.4.6.8.10.12.14.16.18].

Currently, one of the most important, necessary and demanding medical apparatus is the visiographer. In modern dentistry, diagnostics cannot be imagined without radiovisiography – computer X-ray.

A visiograph is an electronic dental diagnostic apparatus that allows transmission using highly sensitive transmitters as well as the release of an X-ray image of teeth on a computer screen without pressing on a film.

A visiographer is a modern analogue of a dental X-ray apparatus, with which an X-ray image of teeth can be projected onto a monitor screen in Real time. An alternative to the visiographer does not exist today.

The effective dose of ionizing radiation is measured in Ziverts (Zv). The maximum possible harmless dose for a person defined in sanquam has been identified, which is 1000 mkZv. Due to the latest technologies, the load of light on the body from the visiographer is 10 times less than when taking a photo with a regular X-ray machine.

A reduction in the dose was achieved due to a reduction in exposure time. The time to take a photo on the film is 0.5 – 1.2 seconds. It takes 0.05 – 0.3 seconds to take such a photo using a visiograph transmitter, which means 10 times less. As a result, the light load given to the patient when using the visiograph is reduced to an imperceptible minimum.

Then, as its undoubted advantage, one can say the high speed of image capture. Due to this feature, there will be no need to wait a long time for the photo to be printed on either the doctor or the patient, after all, observation occurs almost in Real time.

Due to the fact that the image is sent from the transmitter to the computer, another advantage of this apparatus can be distinguished, which is the creation of a patient's card as well as long-term storage with all its images. It is also convenient to transfer photos over a computer network, while also being able to print photos many times if necessary [1.3.5.7.9.11.13.15.17.19.21].

Primary X-ray studies can include orthopantomography (OPTG), which allows you to get a detailed picture of all teeth along with the jaws adjacent to the sections of the facial skeleton. Today, in most cases, orthopantomography is a digital research method that allows you to obtain a quality image in a short time, then process graphics and write to digital carriers. In the study of solid tissue of teeth, orthopantomography allows you to assess the presence of an inflammatory process and its character, specificities in the anatomical structure of the root canal structure, tissue integrity, identify defects left over from The conducted endodontic treatment, and suspect new derivatives [16.18.20.21].

Conclusion. X-ray research using a targeted radiovisiograph is carried out to assess the severity of the patient's condition, the degree of damage and destruction in periapical tissue, as well as the effectiveness of the treatment to be carried out. In the primary examination of the patient, this method provides an opportunity to determine the working length of the root canal, as well as control the quality of root canal obturation during the treatment process. Also studied is the continuity of the periodontal fissure along the entire contour of the root, the position of the edge and periradicular bone. A visiographic examination (PAI index on Orstavik) makes it possible to assess the degree of changes in the foci of destruction in periapical tissue in the long term (1, 3 and 6 months) before the start of treatment and after endodontic treatment. Today, a monand X-ray examination is necessary at all stages of treatment of chronic apical periodontitis, from the planning stage to Radiological Research in the long term.

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