

### 332. THE ROLE OF MICROBIAL FACTOR IN ENDODONTIC PATHOLOGY

Alexandru Muradu, Sergiu Rosca, Ana Ciobanu, Dorin Rosca

Scientific Adviser: Ciobanu Sergiu, MD, PhD, Professor, *Nicolae Testemitanu* State University of Medicine and Pharmacy, Chisinau, Republic of Moldova

**Introduction:** By Endodontic infection we mean contamination at the main channel, the lateral and apical delta, and it certainly affects dentin. The infection of endodontic space is a dynamic, highly complex process in which different bacteria are dominating, depending on the stage of evolution of the infectious process. The infection develops and progresses depending on the bacterial flora composition, which depends on the niche, nutrition, aerobic or anaerobic, PH and the competition or cooperation between species.

**Goal:** Evaluation of the bacterial contamination ways of the endodontic space, specifying the mechanism by which microorganisms enter to the pulp organ.

**Materials and methods:** There were studied over 55 bibliographic sources and it was determined that, microbiological examination of root canals is commonly used and recommended as a method of studying microbial factor in endodontic infections, as part of endodontic therapy. Sampling technique requires the following steps: isolating the affected tooth; antiseptic treatment of the foreign surface of the tooth concerned, and also of the adjacent teeth; removal of the decayed dentine, creating access to the pulp chamber; introducing into open root canals sterile filter paper cones, deeply to the apex of the tooth, maintained for about 2 minutes, then extract; immersed in liquid culture mediums: infusion broth brain-heart for aerobic and facultative bacteria, and thioglycollate broth for anaerobic bacteria. The cone manipulating is made with a sterile forceps; inoculated tubes are incubated at 37 ° C for 48-72 hours, or 96 hours for the anaerobic environments. Environmental disturbance indicates the presence of microorganisms inside the channel and require their removal before final clogging.

**Results:** Using PCR method a large amount of bacteria were found that had not been previously identified or could be found in other cultures, in smaller quantities, such as: *Prevotella Tannerae*, *Actinomyces radicidentis*, species of *Olsenella*, *Dialister Pneumosintes*, *Treponema Maltophilum*, *Treponema amylovorum*, *Treponema medium* and *Treponema lecithinolyticum*.

**Conclusions:** By analyzing the data found in the scientific literature, we established that more than 700 species of microorganism (pathogen – aerobic, anaerobic and facultative) were found in the hard and soft tissues of the mouth.