

**Conclusions.** Obtaining a suitable osteochondral tissue for cartilaginous tissue engineering is very difficult because this process involves utilisation of a very toxic chemicals that harm this tissue. A shorter exposure period to chemical agents and preliminary modeling of the graft is mandatory. Also the OCDDT with 1% TritonX-100 shows the best results compared to others.

**Key words:** graft, osteochondral, demineralized, decellularized

## 268. THE VOLUME OF THE DENTAL PULP CHAMBER DETERMINED BY USING CONE-BEAM COMPUTED TOMOGRAPHY

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**Introduction.** Cone-beam computed tomographic (CBCT) imaging is a valuable tool in dental practice. It is widely used in endodontic treatment for the root canal morphology examination. Therefore, the purpose of this study was to use CBCT to calculate the volume of the pulp chamber at different tooth groups.

**Aim of the study.** of this study was to verify whether clinical use of CBCT imaging can accurately acquire parameters concerning molar pulp chamber landmarks, which are important data to help start a successful way to calculate the number of stem cells in the dental pulp.

**Material and methods.** This study conforms to protocols approved and in accordance with the ethics committee's requirements, informed consent was obtained from each patient. Morphologic measurements of 120 maxillary and 120 mandibular molars (from 40 patients, aged 18–45 years) were included in this study. CBCT images were taken using a Kodak 9500 (Dental Systems, Carestream Health) operated at 90 kVp with a voxel size of 300  $\mu$ m and a field of view of 90  $\times$  150 mm. All scans were taken following the manufacturer's recommendation protocol. According to the examination requirements, C-shaped roots, single-rooted molars, crowned teeth, and teeth with caries and/ or restorations violating the pulp chamber were excluded. All measurements were taken on the coronal plane view.

**Results and discussion.** In the present study, we used CBCT imaging to gather information regarding pulp chamber volume. With the scanned 3-dimensional images, we were able to clinically determine the pulp chamber parameters using a standardized and defined spatial approach.

**Conclusions.** The data we collected here serve as a proof of principle for the analysis of dental landmarks before collecting stem cells. In this particular study, existing CBCT scans were used to provide useful information that can be used as a guide for determine volume of the pulp chamber.

**Key words:** stem cells, cone-beam computed tomographic imaging, pulp chamber

## 269. GRAFTS OF THE CORNEA IN PEDIATRICS

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**Introduction.** Transplantation of the cornea in pediatrics remains a challenge. In 2008, Edward Wilson, from South Carolina, relates that the keratoplasty with the stem cell transplantation around the cornea induces the immune modulation and allows only a part of the cornea to be grafted and being more beneficial in the adults. All these advances improve the transplantation of

the cornea in the children. However, new surgical methods are not available for the small patients.

In 2007, Edward J. Holland, a professor at the Department of Ophthalmology, University of Cincinnati, USA, says that the children are difficult to investigate because they do not complain about their symptoms as an adult, and their immune system increases the chance of a transplant rejection. That's reason of the keratoplasty in the adults is in progress. He also mentions that the endothelial keratoplasty can be used whether the Descemet's base layer is intact.

Currently, in the Republic of Moldova, from 2012, specialists prepare the various grafts in the Bank of Human Tissues, such as bone, tendon, skin, amniotic membrane, stem cells and cornea. In 2013, the first transplant of the cornea was successful in the Municipal Clinical Hospital "H. Trinity". The most of the grafts of the cornea was transplanted in the adults using the transfixing and endothelial lamellar keratoplasty. The children are less likely to have surgery, the causes of which are the technical deficits. In the Medical Center "Ovisus" two children with the age over 11 years old were operated. The diagnosis was "Penetration of the cornea with the foreign bodies". The cornea were released from the Human Tissue Bank and had a number of over 2700 endothelial cells per mm<sup>2</sup>, useful for transfusion keratoplasty. The dynamic results of transplantation are positive with the restoration of the vision.

**Conclusions.** The development of the associations of eye banks enables us to promote new techniques of the sampling and preservation of the cornea, which allow us to maintain the quality of the graft, and the pediatric ophthalmology will increase the spectrum of the surgical interventions.

## **270. THE ROLE OF TISSUE REGENERATION GUIDED IN PROSTHETIC TREATMENT**

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**Introduction.** Guided tissue regeneration aims to replace soft or hard tissues with biocompatible materials in order to complete bone defect and stimulate tissue repair.

**Aim of the study.** Bringing to the forefront, surgical interventions that aim to replace soft or tough lost tissues, with biocompatible materials that complement the bone defect and stimulate tissue repair.

**Materials and methods.** A study was conducted considering the paraclinical records / examinations of patients who have presented themselves at a private clinic during a period of 2 years and have received bone additions for prosthetic purposes. The patients were treated between March 2015 and April 2017. The results were statistically processed using the Microsoft Office Excel program and Quattro Pro ( $p < 0,05$ ).

**Results.** The study group consisted of 22 patients aged between 35 and 70 years old. Distribution by sex was predominantly male, with 72.7% (16 men, 6 women).

**Conclusions.** It was found that allograft showed better integration, the resorption rate being lower than in the case of using xenografts. Good integration of bone additions has been achieved, indicating the utility of these types of therapeutic maneuvers in prosthetic treatment.

**Key words:** tissue regeneration, biocompatibles, bone defect

## **271. BLOOD VESSEL DECELLULARIZATION – CHALLENGES AND PERSPECTIVES.**

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