off 20 mm above the DML center or 30 mm distally to it. In most of the cases the medial calcaneal branch (MCB) originated from the TN proximal to the bifurcation. Possible entrapment spots for the medial and lateral plantar nerve (MPN, LPN), the BN and the MCB are found within a circle of 5 mm radius with a probability of 80, 83 and 84%, respectively. In 10 out of 10 feet the US guided injection was precisely allocated around the BN.

**Conclusions.** Our detailed mapping of the TN branches and their osteofibrous tubes at TT might be of importance for foot and ankle surgeons during minimally invasive procedures in HPS such as ultrasound-guided ankle and foot decompression surgery.

### INFLUENCE OF LASER RADIATION AT THE REGENERATION OF SOFT TISSUES OF MAXILLOFACIAL REGION

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***Key words:*** *laser, maxillofacial area, rehabilitation, dental diseases*

**Background.** Traumatism of surgical operations in dentistry dictates the need to search for minimally invasive methods of tissue alteration. The use of lasers can solve this problem, since laser radiation is characterized by a lower operational injury, selective action and activation of reparative processes in the wound.

**Aim.** Improving the efficiency of surgical treatment of patients with dental diseases using Nd:YAG laser.

**Material and Methods.** We used Nd:YAG laser of wave length 1064 nm. In the experiment, we done histological examination of biopsy of the rabbit oral mucosa in different stages of healing. All rabbits were divided into 4 groups, depending on the method of defect formation: cutting tool, laser radiation power of 1.6 W, 2.4 W and 3.2 W, respectively. In the clinic Nd:YAG laser was used for surgical treatment of 183 patients with different dental diseases.

**Results and Discussion.** On the results of the experimental and histological study, wound defect, caused by laser, compared to scalpel, much faster goes through all the stages of the wound healing process. The alterative processes and disorders of microcirculation, the intensity of inflammatory processes are less pronounced, reparation starts earlier and have more intensity: fibroblast proliferation, angiogenesis, collagen production, fibrillogenesis, maturation and fibrous cicatricial granulation tissue transformation, wound surface epithelialization. Analysis of clinical data showed that the using of Nd:YAG laser contributed to the unexpressed pain response, minor collateral edema in the postoperative period, reduction of healing terms.

**Conclusions.** The using of Nd:YAG laser enhances the effectiveness of surgical treatment of patients with dental diseases due to reducing of rehabilitation terms.

### MACROSCOPIC AND HISTOLOGICAL CHANGES OF THE LIVER DURING HSV-1

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***Key words:*** *liver, herpes simplex virus, morphological study*

**Aim**. Herpes simplex virus (HSV) infection is quite prevalent in general population. HSV-1 can be reactivated in nerve system, but the question of herpetic damage of the liver remains open. Aim — the morphological study of liver during HSV-1 infection.

**Material and Methods**. 30 BALB/c line mice weighing 18–20 g were infected by HSV-1 (strain VC, specifically adapted to studies on laboratory mice) in the amount of 4.0 lg $LD_{50}$. On day 5, 10 and 30 animals were removed from the experiment. The mice liver was collected on a histological study and weighed. Additionally, the visual assessment of the state of the liver: color, blood supply, consistency.

**Results**. The liver mass in animals with HSV-I was decrease at 20.2% for 10 days and 22.5% for 30 days ($p<0.05$). On day 5 and 10 after infection the histological structure of liver was not distorted, but hepatocytes had marked cytopathological signs (cells hypertrophy, swelling around the hypertrophied nuclei). The macrophage infiltration was observed in the lobular hemocapillaries. On day 30 the density and area of infiltration of mononuclear phagocytes and lymphocytes were significant increased. Thed hyperemia of hemocappilaries and central veins and local hemorrhages were observed. Cytopathology of hepatocytes were diffuse or focal diffuse. Moreover, the degree of damage was lower compared to the early period of the study.

**Conclusion**s. HSV-1 causes dystrophic and lithic changes in hepatocytes, which affects the reduction

of liver mass which explain the development of acute herpetic hepatitis.

### FRONTAL ASLANT TRACT AND ITS ROLE IN NORMAL SPEECH AND PRIMARY PROGRESSIVE APHASIA

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***Key words:*** *aphasia, speech, demetia, Broca's region, motor area*

**Background.** Primary progressive aphasia (PPA) is a clinical dementia syndrome characterized by the progressive impairment of language functioning affecting other cognitive domains as well. Nowadays it is known that PPA is associated with the impairment of frontal aslant tract (FAT) — direct pathway connecting Broca's region (inferior frontal gyrus — pars opercularis) with the anterior cingulated and pre-supplementary motor area.

**Aim.** To study the normal FAT function and the relation between PPA and FAT impairment based on the reviewed articles.

**Material and Methods.** The articles from PubMed databases published in the last 5 years were analyzed. Key words used: «frontal aslant tract», «primary progressive aphasia», «aphasia», «white matter».

**Results and Discussion.** During the analysis it was found that patients with PPA possess many macro-and microstructural FAT abnormalities, such as cortical atrophy in the posterior frontal regions, changes in number of streamlines, fractional anisotropy and radial diffusivity, which underlie verbal fluency deficits in patients with PPA.

Furthermore, intraoperative stimulation of FAT causes stuttering, and stimulation of the pre-supplementary motor area and anterior cingulated cortex connected by FAT produces vocalization and arrest of speech. In addition, lesions in these areas result in speech impairment from mutism to mild altered fluency.

**Conclusions.** The frontal aslant tract is a white matter fascicle that provides verbal fluency. When impaired, it fails to function properly causing speech dysfluencies. Moreover, since it connects inferior frontal gyrus (pars opercularis) with the anterior cingulated and pre-supplementary motor area, it can indirectly control the speech initiation.

### KNOWLEDGE, ATTITUDE AND PERCEPTIONS ABOUT BODY DONATION — A CROSS SECTIONAL STUDY IN INDIA

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***Key words:*** *anatomy, body donation, cadaver, dissection*

**Aim.** The objective of the present study was to assess the knowledge, attitude and perceptions about body donation in India.

**Material and Methods.** The present cross sectional study was done among students and faculty of Kasturba Medical College, Mangaluru, India. A semi structured questionnaire was used to collect the relevant information from 300 individuals. The questionnaire was based on the basics of legal provisions and act governing body donation and common myths and opinion of the people regarding it.

**Results and Discussion.** The present study observed that, majority of the participants were reasonably well aware about the rules and regulations about body donation. Most participants were aware about the use of donated bodies in anatomical dissection and teaching and use by surgeons to try new surgical skills. Nearly 40% participants said that the family cannot donate the body of the deceased irrespective of his wish to donate body after death. However nearly 32% said that the family can donate the deceased individual's body irrespective of his/her wishes.

**Conclusions.** In our study, the participants were largely aware about the procedure for registering oneself as body donor. Despite this, the willingness to donate was low. Despite the fact that donated bodies is the preferred source for cadavers, the proportion of people in the general population registering for body donation remains very small.