

the venous anastomoses showed 8 morphological types of distribution in the case of the venous intersegmentary anastomoses and 9 morphological types in the case of venous intrasegmentary anastomoses. The situation when the middle hepatic vein and the left hepatic vein form a common trunk of drainage into the inferior vena cava and the right hepatic vein drains alone favors the apparition of intra- and intersegmentary venous anastomoses. These anastomoses appear in the normal liver (without previous hepatic disease). Knowing these aspects of morphologic interrelation between the elements of origin of the hepatic veins could facilitate the planning of surgery for liver resection or transplant, considering that the venous anastomoses interconnect hepato-venous segments.

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Aspects regarding the morphological variability of superior thyroid artery

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Vascularization of the thyroid gland is realized by two superior thyroid arteries, which irrigate superior and anterolateral part of thyroid lobe and two inferior thyroid arteries, which irrigate inferior and inferomedial part of the gland. The study was made in the Laboratory of Anatomy at the University of Medicine and Pharmacy Victor Babes, Timisoara, on 120 corpses. To point out superior thyroid artery, we used the method of macroscopic dissection correlated with injection of colored plastic materials (latex). During the dissection we followed the origin, the line, the size and the connections of superior thyroid artery. We come up to the following conclusions: the missing of the superior thyroid artery, unilateral or bilateral, although is written in the anatomical literature. This absence isn't frequent and it exists when the lateral thyroid lobe is missing; the origin of the superior thyroid artery has its variability: 35,8% from the common carotid artery, 36,6% from the external carotid artery, 27,5% from the bifurcation of the carotid artery; the initial direction of the superior thyroid artery may present some variability: ascendant(17%), horizontal (39%) and descendant (44%); in one case we found a common trunk between superior thyroid artery and lingual artery, the origin of the common trunk, in this case, being situated above the carotid bifurcation.

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The incisive canal – an obstacle in oral implantology?

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To assess whether the incisive canal and its content could represent an anatomic obstacle for implant prosthetic rehabilitation. This study was realised for determination of the accurate implants positioning in the anterior maxilla.

For the evaluation of the typical shape of the incisive canal and surrounding bone with respect to the presence or absence of upper incisors, we accomplished dissections on formolized human cadavers (25) and CT examinations on 15 young adult patients which needed implant prosthetic rehabilitation in the region of maxillary central incisors.

The alveolar bone quantity in the incisor region was significantly reduced in high at the level of the labial surface, the alveolar ridge being in a posterior and palatal position in the edentulous maxillae compared with the dentate ones. It was

quantitatively confirmed that the distance between the alveolar ridge and the incisive foramen decreases and the angle from the horizontal plane of the alveolar bone increases following the loss of the incisors,

Accurate implant placement in the anterior maxilla is essential in achieving optimal prosthetic rehabilitation with proper function and acceptable aesthetic and phonetic demands. Bone resorption together with an enlarged incisive foramen can determinate the incisive foramen penetration through implant osteotomy. The anterior maxilla can be a critical region for the implants placement.

- Artzi Z, Nemcosky CE, Bitlitum I, Segal P (2000) Displacement of the incisive foramen in conjunction with implant placement in the anterior maxilla without jeopardizing vitality of nasopalatine nerve and vessels: a novel surgical approach. *Clinical Oral Implants Research* 11(5):505-510.
- Cavalcanti MG, Yang J, Ruprecht A, Vannier MW (2004) Accurate linear measurements in the anterior maxilla using orthoradially reformatted spiral computed tomography. *Anat Embryol* 208(4):265-271.
- Nimigean V, Maru N, Nimigean VR (2004) *Anatomie clinica si topografica a capului si gatului*. Ed. Universitara „Carol Davila” – Bucuresti.

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Morphological aspects of human oocytes after cryopreservation

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Oocyte cryopreservation may represent a valid technique of gamete storage for women in need to preserve their reproductive potential. However, in general, oocyte cryopreservation protocols have not been fully optimized and overall clinical success remains quite low. Morphological studies, especially at ultrastructural level, may provide an important contribution in understanding the frequent failure of oocyte viability after cryopreservation. Thus, in order to evaluating the most common freeze-thawing procedures, we studied the ultrastructural characteristics of human preovulatory oocytes frozen/thawed (F/T) with different protocols.

All the oocytes were obtained from patients undergoing *in-vitro* fertilization (IVF) trials after their informed consent. The oocytes were fixed in glutaraldehyde at sampling and after freeze/thawing performed with cryoprotectants at different concentrations. Fresh human preovulatory oocytes were used as controls. The oocytes were processed for light and transmission electron microscopy (LM and TEM) observations.

By LM, both fresh and F/T oocytes appeared rounded, with a normal cytoplasm and a continuous zona pellucida (ZP). Cytoplasmic vacuolization was detected in some F/T oocytes. By TEM, organelles were uniformly dispersed in the ooplasm of fresh and F/T oocytes. Rounded mitochondria with typical cristae were found often associated with tubules and with small vesicles of smooth endoplasmic reticulum (SER), forming respectively mitochondria-SER aggregates and mitochondria-vesicle complexes. Metaphase II chromosomes were eccentrically located in the ooplasm. First polar body was regularly present in the perivitelline space. Cortical granules (CGs) were always present just beneath the oolemma in all the oocytes. Amount and density of CGs appeared abnormally reduced in F/T samples, irrespective of the type and concentration of cryoprotectant used. This was frequently associated with an increased density of the inner ZP. Finally, the presence of vacuolization from a slight to a moderate extent was confirmed by TEM analysis in the ooplasm of some F/T oocytes.

In conclusion, freeze/thawing procedures may generate fine ultrastructural alterations in specific oocyte cytoplasmic structures, presumably responsible for the reduced developmental potential of cryopreserved oocytes.

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