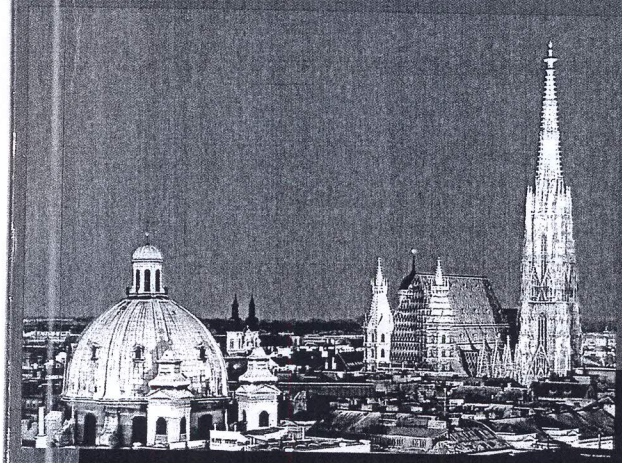
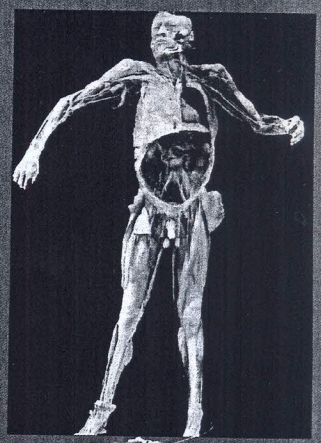
23

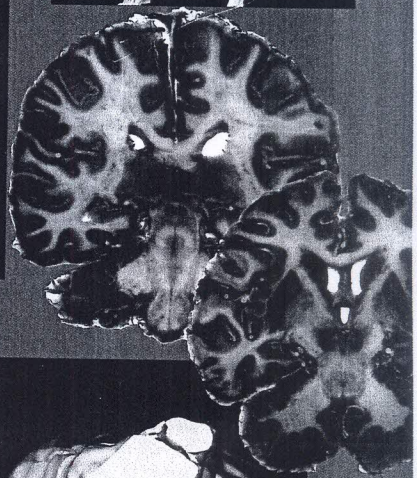
ISP

13th International Conference on Plastination
Vienna, Austria, 2-7th July, 2006

PLASTINATION Vienna Medical University



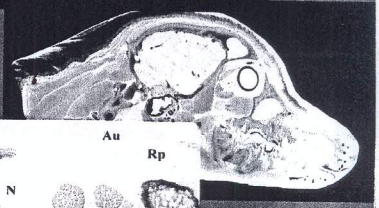


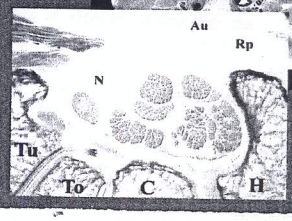


Proceedings of the 13th International Conference on Plastination

Conference President: Univ.Prof. Dr. Wilhelm Firbas
Conference Organizer: Ass.Prof.Dr. Mircea-Constantin Sora

http://www.meduniwien.ac.at/plastination2006/start.htm





each section was measured in millimeters through 3 phases (fixation, dehydration and curing). We defined "difference of reduction" as the percentage of difference of length between the first and second phase. Staining was performed according to Tompsett's modified Mulligan-staining procedure. After dehydration (A,C in pure acetone, -20°C, room temperature; B,D in 80% acetone, -20°C, room temperature; final bath with 99% acetone) these specimens were then impregnated in vacuum at the temperature of -20°C with Biodur S10 silicones mixed with 15 Biodur S3 hardeners. Finally, the slices were cured by exposure to S6 vapor at room temperature. **Results and Discussion:** Difference of reduction between group A and C was -4.3 with 95% Confidence Interval from -7.67 to -0.98 mm. This indicates that the shrinkage in group C was 4.3% more than group A. The difference of reduction between group A and D was -6.35 with 95% Confidence Interval from -9.66 to -3.04 mm, which indicates the shrinkage in group D is 6.35% more than group A. Since dehydration temperature in both groups (C and D) increased to room temperature, it is concluded that the temperature is the main factor of the shrinkage at the dehydration stage.

16.45 *O-11* MICROSCOPIC MORPHOLOGICAL INVESTIGATION OF DEPLASTINATED PIG KIDNEY SECTION

V.Ilieski[1]*, L.Pendovski[1], T.Ristoski[2],
[1]Department of Functional morphology, Faculty of Veterinary medicine, Skopje, Macedonia
[2]Department of Pathology, Faculty of Veterinary medicine Skopje, Macedonia

Introduction: Plastination is a method for preservation of biological specimens where they retain in its original shape. Microscopically changing during this preservation was subject of interests in the past years. Several publications were published where different method for deplastination was used. Findings show that plastinated specimens maintain their histological structure and that deplastination affects the morphology in different ways. The aim of this study was to determine level of morphological changing during preservation with plastination of the kidney structure and to describe the most suitable protocol for deplastination. **Material and Method:** In this study we used 3 years plastinated pig kidney by standard procedure for S10 plastination according von Hagens. The plastinated pig kidney was transversally dissected on (0.5 cm - 1 cm - 0. 5 cm) thick specimens and divided in five groups. For deplastination absolute alcohol (99%) and toluol solution were used. The first group of specimens were immersed in alcohol for 24 hours, the second was in 48 hours, the third in 72 hours, the forth was immersed for 90 hours and the last group of specimens were immersed for more then 200 hours in alcohol. After that the slices were transferred in toluol, using same protocol. The last faze for all specimens were immersion of it in 10% formalin. At the end the tissue specimens were embedded in paraffin using standard protocol. For examination by light microscopy parafin section was cut on 5 - 10 μm slices

and stained with haematoxylin and eosin. The specimens were pictured using Lucia G software.

Results: On the specimens immersed in toluol we noticed resin, which was, arise from slices surfaces in thin transparent particles. Level and amount of particles depends of protocol used for deplastination. Histological section showed clear distinction between cortex and medulla. On higher magnification we find lesion on renal tubule with unclear border between epithelial cells. On some sections the tubules were disrupted and on other we noticed tortuous tubules. Occlusion with cell detritus was also identified inside the collecting tubules. The main changes were located in medulla whereas the cortex cortices were less damaged. The Bowman's space of some renal corpuscle was enlarged with noticeable shrinkage of capillary.

Discussion: Our results show that duration of tissue immersion in toluol has important impact for deplastination. The best procedure for deplastination of kidney section was protocols, which obtain immersion of specimens 48 hours in alcohol and afterwards 90 hours in toluol. These specimens can be used for optical microscopic studies. The morphology is well preserved and comparation with normal histological structure of kidney deplastinated specimens show maintaining of their histological characteristic. However, structural changes were founded and mostly were located in medulla of kidney.