Material and Methods. Study was performed on 43 cadavers within 24 hours after death (32 males, 11 females). Bodies were dissected in a prone position, with wide and long laminectomy revealing full spinal canal for bilateral examinations of each spinal nerve root from origin to its exit through intervertebral foramen or sacral hiatus. Uncommon extradural features in all spinal regions were followed and documented. Extradural roots anomalies were excised, proccessed with light microscopy method, stained with hematoxyllin-eosin, luxol blue and Holmes silver methods.

Results and Discussion. Totally 20 extradural root anomalies were observed (46.5%): including atypical spacings, 2 roots exiting 1 neuroforamen, extradural anastomoses, extradural missing a nerve root or aberrant root. Especially in cases of multiplied roots in 1 neuroforamen, root anastomoses and aberrant roots the tissue samples were compared with samples of apparently normal roots. In case of cervical and thoracic connecting branches (anastomoses) we failed to prove nervous tissue presence within the samples.

Conclusions. Not all the extradural communicating branches are real nervous connections, despite this any iatrogenic injury by various less invasive spinal surgical procedures must be avoided. Further histological and electrophysiologic investigations are probably need for elucidating their impact on classic image of segmental dermatome and myotome organization of human body.

AMINOLIPIN — A FIXATIVE TO OVERCOME THE BIOCIDE DILEMMA

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Key words: *aminolipin, anti-microbial effect, preservation*

Background. New guidelines for occupational safety concerning the embalming procedure are being enforced by the authorities worldwide. Therefore, anatomical teaching faces a compelling urge to invent and evaluate non-hazardous fixation methods to keep up the high quality of medical training. Aminolipin is a substance that just recently has been proposed as a fixative.

Aim. Here we describe its mode of action and usability.

Material and Methods. We used mass-spectrometry, gas-chromatography, and ^{1}H-NMR-spectrometry to analyse the chemical properties of aminolipin. We characterized its fixative activity by circular-dichroism-spectroscopy, ^{1}H-^{15}N-NMR-spectrometry, and FRET-based endopeptidase assays. Moreover, we evaluated the histology and gross tissue retention of aminolipin-embalmed human cadavers and quantified haptics and joint-mobility. Biological and occupational safety was evaluated by microbiological assays and ambient air analysis by HPLC.

Results and Discussion. We found that aminolipin exerts a potent denaturating effect on proteins, thereby unfolding tertiary and secondary structure and arresting enzymatic activity. Further, we present strong histological and gross-anatomical evidence that aminolipin is a useful fixative for the embalming of human cadavers. Due to the in vivo-like haptics and joint-flexibility, aminolipin fixed specimen can be used for students' education as well as for surgical training. We were not able to detect any volatile hydrocarbons as derivatives of aminolipin by HPLC evaporating from the fixed specimens. Aminolipin has a potent anti-microbial effect covering a wide spectrum of anaerob-aerob, gram-positive and gram-negative bacteria and, in contrast to formalin, even acts anti-mycotic.

Conclusions. Aminolipin is an alternative useful for the preservation of human cadavers, that has favorable properties in terms of biological and occupational safety.

ANATOMY OF THE THORACIC AND LUMBAR SPINE IN THE INTERMEDIATE FETAL PERIOD OF HUMAN ONTOGENY

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Key words: *human fetus, anatomy, spine*

Aim. To obtain data on the morphology of the thoracic and lumbar spine in the intermediate world of the fetus of human ontogeny.

Material and Methods. Torsos of 30 human fetuses of both sexes, aged 16 to 22 weeks, were used. Methods: macromicroscopic dissection; sawing of N. I. Pirogov; histotopographic method; descriptions of quantitative topography, variational-statistical analysis.

Results and Discussion. The character of changes in the thoracic and lumbar spine in the intermediate state of the fetus of human ontogenesis was first