

Our results indicate a significant role of caspases and AIF in apoptosis-induction during transient focal cerebral ischaemia. This observation may have implications in the development of specific protective procedures concerned with the selective inhibition of neuronal death during cerebral infarct.

#### OPIOID-LIKE IMMUNOREACTIVITY IN THE MAMILLARY BODY OF PIGS

Kozdryk M<sup>3</sup>, Robak A<sup>1</sup>, Bogus-Nowakowska K<sup>1</sup>, Równiak M<sup>1</sup>, Wylot B<sup>2</sup>, Majewski M<sup>3</sup>

<sup>1</sup>*Department of Comparative Anatomy, University of Warmia and Mazury, Olsztyn, Poland*

<sup>2</sup>*Department of Animal Physiology (Faculty of Biology), University of Warmia and Mazury, Olsztyn, Poland*

<sup>3</sup>*Division of Clinical Physiology, Department of Functional Morphology (Faculty of Veterinary Medicine), University of Warmia and Mazury, Olsztyn, Poland*

Our preliminary studies have suggested that some opioid precursor (proenkephalin and prodynorphin) genes are expressed in the mamillary region of mature female pigs. The purpose of the present study is to elucidate the presence of opioid-like immunoreactivity in the mamillary body (Mbs) of immature pigs, aged 10–14 weeks postnatally. The pig brains were perfused and postfixed (4% paraformaldehyde in phosphate buffer, pH 7.4), then washed in PBS and cryoprotected in a 30% solution of sucrose, before cutting into slices (10 or 20 µm thick). The slices were immunostained with a standard fluorescence technique using the primary antibodies against dynorphin A (DYN A), α-neoendorphin (α-neoEND), and the species specific secondary antibodies conjugated with fluorochromes FITC or CY3. The medial (MM) and lateral (ML) mamillary nuclei as well as the supramamillary (SM) and posterior part of the tuberomamillary nuclei (TMp) were investigated. Generally, the perimamillary area (SM, TMp) showed a stronger immunoreactivity than the mamillary nuclei. Throughout the entire mamillary body, the opioid-ir fibres were observed. These fibres were segregated into three different morphological types: 1) fine, slender, faintly-ir fibres consisting of dots, they coursed alone (MM) or formed a network (SM, TMp) that sometimes looked like a basket structure (TMp); 2) strongly fluorescent varicose fibres (short or relatively long) containing thick irregular varicosities and thin intervarticose segments. In general, the distribution of DYN A-ir and α-neoEND-ir fibres was similar, but some differences were observed. These opioid-like immunoreactivities were higher in the anterior sector of MM than in the posterior one. The α-END-ir and DYN A-ir single rounded or triangular perikarya were found in SM and MM.

#### EXPERIMENTAL PHOTOTOXICITY AND PHOTSENSIVITY — HISTOPATHOLOGICAL CHARACTERISTICS OF INFLAMMATORY SKIN REACTION

Krajnow A, Domeradzka K, Palmowska M, Stetkiewicz J

*Department of Pathomorphology, Nofer Institute of Occupational Medicine, Łódź, Poland*

Phototoxicity and photosensitivity are inflammatory skin reactions caused by exposure to a chemical and subsequent exposure to sunlight or ultraviolet radiation. In the course of testing several non-steroid anti-inflammatory drugs for phototoxicity and photosensitivity, we noticed a need to validate our procedures by experimental *in vivo* methods.

Ethanol solutions containing 25, 50 and 100 ppm of 8-methoxypsoralen (8-MOP) were used as a reference substance for phototoxicity control;

1% 6-methylcumarine (6-MC) ointment was applied for the photosensitivity test. The experiments were performed on guinea pigs. The animals were exposed to 280–315 nm UV light at 0.047 UVA/UVB ratio, 10 J/cm<sup>2</sup> UVA and 0.1 J/cm<sup>2</sup> UVB dose. The phototoxicity test was performed according to modified OECD TG-404 method — dermal application of 8-MOP was followed by a single exposure to UV light. The photosensitivity test was performed according to a modified Bahler test (OECD TG-406) — after dermal application of 6-MC, the animals were exposed each second day to UV light (induction). Two weeks after the last exposure, a control test was carried out. Twenty-four and forty-eight hours after the single exposure (phototoxicity test) or control test (photosensitivity test) skin specimens from UV-exposed and non-exposed animals were subjected to histopathological examination.

Microscopic examination performed after the phototoxicity test revealed spongiosis of the epidermis and perivascular infiltration containing polymorphonuclear cells in the upper dermis. The degree of change was dependent on 6-MC concentration.

Acanthosis, spongiosis and diffuse mixed infiltration in the dermis were most prominent after the control photosensitization test, while pyknosis and vesicles in the epidermis were related to phototoxicity.

#### MORPHOLOGY OF THE INCUDO-MALLEAL AND INCUDO-STAPEDIAL JOINT IN HUMANS

Krasucki KP<sup>1</sup>, Skarzyńska B<sup>2</sup>, Skarzyński PH<sup>3</sup>

<sup>1</sup>*Head and Neck Clinical Anatomy Laboratory, Warsaw Institute of Physiology and Pathology of Hearing, Warsaw, Poland*

<sup>2</sup>*Department of Normal Anatomy Centre of Biostructure, University of Medical Sciences of Warsaw, Warsaw, Poland*

<sup>3</sup>*Inter-Center Students Research Study Group, Warsaw Institute of Physiology and Pathology of Hearing, Warsaw, Poland*

It is commonly thought that joints are the connections between auditory ossicles. The authors of this paper verified 10 human ossicle-tympanic specimens and by applying histological methodology they assessed the character of the structure of the auditory ossicle connections. The specimens were covered by Histoacryl-acrylic resin and then coloured by HE. The research revealed significant variations of some of the structures. The surface of the incudo-malleal joint is elliptic; they separate from each other in various degrees, which often do not make a proper cavity. The research revealed the presence of a thin meniscus of fibrous structure going straight from the joint capsule. The structure of this connection bears more resemblance to a synchondrosis than a regular joint. The joint capsule of the incudo-stapedial joint is hardly visible. A total lack of joint cavity was observed between the surfaces connecting the ossicles (head of the stapes and surfaces of the lenticular process). The lenticular process of the incus has on its surface cartilage a convexity that forms the head of the joint.

#### BLOOD SUPPLY OF THE PRIMARY OSSIFICATION CENTRES OF THE BODY OF LUMBAR VERTEBRAE IN HUMAN FOETUSES

Krzanowski K, Czerwiński F, Sławiński G, Michalska-Krzanowska G, Sulisz T

*Department of Anatomy, Pomeranian Medical University of Szczecin, Szczecin, Poland.*

The blood supply of the spine in foetuses differs from that observed in adults. Some vessels observed in foetal development disappear with the end of the ossification process. The aim of the study was to describe the blood supply of the primary ossification nuclei in the bodies of the lumbar vertebra in human foetuses.