underlying mechanisms may involve opioid receptor activation and/or intracellular pathways. However, in what way these systems interact, remains to be investigated.

Disclosure: None declared

T125

NUCLEUS PULPOSUS APPLIED ONTO RAT SPINAL DORSAL NERVE ROOTS INDUCES A PERSISTENT INCREASE IN THE SPINAL C-FIBRE RESPONSES

N. Egeland[1,2]*, L.M. Pedersen[1], E. Nilsson[3], H. Brisby[3], J. Gjerstad[1,2]. *[1]National Institute of Occupational Health, [2]Dept. of Molecular Biosciences, University of Oslo, Oslo, Norway; [3]University of Gothenburg, Gothenburg, Sweden*

Background and Aims: In spinal disc herniation, a rupture of the annulus fibrosus of an intervertebral disc leads to leakage of nucleus pulposus into the spinal canal. As a result, in addition to the mechanical compression of the nerve roots, the subsequent pathophysiology also involves inflammation. Previous clinical studies suggest that nucleus pulposus may have a pro-inflammatory effect on neuronal tissue.
In an animal model, we here examine in what manner direct administration of nucleus pulposus onto the spinal dorsal nerve roots affects spinal cord nociceptive nerve signalling.
Methods: Electrophysiological extracellular single cell potentials were recorded from the dorsal horn in anaesthetized inbred Lewis rats. A single test stimulus was applied to the sciatic nerve every 4th minute (2 ms pulse, 1.5× C-fibre response threshold) and the A- and C-fibre responses were separated according to latencies. As a measurement of the spinal nociceptive response, the C-fibre response on each test stimulus was quantified. Nucleus pulposus, harvested from caudal vertebrae of an identical donor rat, was applied onto the spinal dorsal nerve roots. A group of sham-operated rats was used as control.
Results: A persistent increase in the C-fibre responses was observed following administration of nucleus pulposus onto the spinal dorsal nerve roots, whereas no change in the C-fibre responses was found in the control group.
Conclusions: These preliminary results indicate that nucleus pulposus administration induces a persistent increase in the spinal C-fibre responses, possibly due to inflammatory mediators. Identification of these mediators remains to be investigated.

Disclosure: None declared

T126

THE DEGREE OF A HUMAN PERCEPTUAL CORRELATE OF NOCICEPTIVE LONG-TERM POTENTIATION (LTP) IS ASSOCIATED WITH THE SEROTONIN TRANSPORTER GENOTYPE

M. Belland Olsen[1,2]*, L.M. Jacobsen[1], J. Gjerstad[1,2], T. Klein[3], K.B. Nilsen[1,4], D. Matre[1]. *[1]Dept of Work Psychology and Physiology, National Institute of Occupational Health, [2]Department of Molecular Biosciences, University of Oslo, Oslo, Norway; [3]Department of Neurophysiology, Medical Faculty Mannheim University of Heidelberg, Mannheim, Germany; [4]Dept of Neurology, Oslo University Hospital, Oslo, Norway*

Background and Aims: The serotonin transporter (5-HTT) has been shown to be important for pain modulation in humans. The expression level of 5-HTT depends on the length of a polymorphic region in the 5-HTT promoter, consisting of a long (L) allele and a short (S) allele and the AY→G single nucleotide polymorphism (SNP) rs25531. In a human pain model of nociceptive LTP we investigated the relevance of 5-HTT genotypes for the expression of secondary mechanical hyperalgesia.
Methods: Pain-LTP was induced by high-frequency electrical stimulation (HFS; 5x1sec at 100 Hz) on the forearm skin (test site) in 55 healthy subjects. Heterotopic mechanical pin-prick stimuli (256 mN) were delivered at 5 min intervals from 15 min before until 25 min after HFS alternating between the test and the contralateral control site. Pain was rated on a 100 mm visual analog scale (VAS). 5-HTT alleles (L vs. S) were post PCR separated on a 2% agarose gel. The A→G SNP was detected by TaqMan methodology. Based on transcription rates the 5-HTT genotypes were divided in 3 groups; low: SS, medium: SL_G, L_AL_G and SL_A, and high: L_AL_A.
Results: A significant LTP-effect ($\Delta VAS_{test} - \Delta VAS_{control}$) was found 20–25 min after HFS (1.1 [0.4–2.1] mm, median/interq.range, $p < 0.01$). The LTP-effect was significantly higher in group low (2.1 [1.2–3.1] mm) vs. group medium (0.8 [0.3–1.9] mm; $p < 0.01$), but not vs. group high (1.1 [0.7–1.6] mm, $ps > 0.15$).
Conclusions: The results indicate that the degree of a perceptual correlate of LTP in humans is more pronounced in individuals with the 5-HTT SS (low) genotype than individuals with 5-HTT $SL_G/L_AL_G/SL_A$(medium) genotype.

Disclosure: None declared

T127

THE INFLUENCE OF TRANSIENT SHIFTS OF SPATIAL ATTENTION ON ELECTROCUTANEOUS STIMULUS EVOKED POTENTIALS

J.H.G. Blom[1]*, R.H.J. Van der Lubbe[1,2]. *[1]Cognitive Psychology and Ergonomics, University of Twente, Enschede, The Netherlands; [2]Cognitive Psychology, University of Finance and Management, Warszawa, Poland*

Background and Aims: Previous research revealed that processing of electrocutaneous stimuli is attenuated during sustained distraction tasks as compared to focused attention tasks, which is reflected in reduced N1 and P3a ERP components. Unknown, however, is whether transient shifts of spatial attention have the same attenuating effect. This issue was examined by employing a Posner-cueing paradigm with electrocutaneous stimuli.
Methods: Participants were presented with visual cues indicating the probable location (left or right forearm) of a to-be-discriminated electrocutaneous stimulus with a validity of 80%. Stimuli were of low or high intensity (manipulated by varying the number of pulses) and participants were instructed to make speeded responses depending on the perceived intensity by using two foot pedals. EEG was measured to determine the N1 and P3a ERP components.
Results: Preliminary results show that knowledge of the probable forthcoming location of a stimulus affected the subsequent processing of this stimulus. Slower RTs were observed for invalidly cued as compared to validly cued stimuli. The N1 and P3a component were both enlarged for a high intensity compared to a low intensity stimulus. The N1 component was enhanced for attended as compared to unattended stimuli. In contrast, the P3a component, which is thought to reflect an orienting response, was enhanced for unattended as compared to attended stimuli.
Conclusions: A transient manipulation of focused attention increases cortical activity for attended as compared to unattended electrocutaneous stimuli. Furthermore, initially unattended stimuli appear to induce an enhanced orienting effect.

Disclosure: None declared

T128

EFFECTS OF OVARIECTOMY OR ADRENALECTOMY ON MODULATION OF THERMAL PAIN PERCEPTION IN FEMALE RATS

R. Ahmadi*. *Islamic Azad University, Hamedan Branch, Hamedan, Iran*

Background and Aims: Sex steroid hormones influence pain perception and modulation in female animals. The effects of female gonadal and adrenal sex steroids on sex-typical responses to thermal shock were assessed to determine the analgesic effects of female sex steroid hormones in rats.
Materials and methods: Analgesia time was measured by immersing rat's tail in 55°C hot water (Tail Withdrawal Test). The time that an animal kept its tail in hot water was considered as analgesia time and measured pre-operation and 10 or 20 days