(vitamins A, C, D and Selenium). All measurements were done on the tail of anaesthetized animals.

**Results:** We confirm again that the hydroxyl radicals are increased after the laparotomy. Also singlet oxygen is increased and this both indicators are decreased after the application of antioxidants.

**Conclusion:** The new tool EPR is the promising method for the direct measurement of free radicals and singlet oxygen. The originality and advantage of our approach consists in the direct measurement in living anaesthetized animals. It seems to be a promising method for the future experimental evaluation of analgesics.

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### Free Presentations 08: Diseases

**120 CENTRAL NEUROPATHIC MECHANISMS IN POST-STROKE SHOULDER PAIN**
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**Background and aims:** The aetiology of post-stroke shoulder pain (PSSP) is not well understood and may involve both central neuropathic and peripheral nociceptive mechanisms. In practice, it is difficult to determine the role of these mechanisms in individual patients. Neuropathic pain scales, such as the neuropathic pain questionnaire (DN4), and sensory examination may provide a tool for PSSP classification and treatment.

**Methods:** Pain complaints and sensory function were compared between chronic PSSP patients scoring equal or higher than 4 (DN4+) or lower than 4 (DN4−) on the DN4. Pain complaints were assessed using numeric rating scales and the McGill pain questionnaire. Sensory function was assessed using clinical examination and quantitative sensory testing combined with a cold pressor test (CPT).

**Results:** DN4+ patients (n = 9) were more often in constant pain and reported higher pain intensity during arm movement and a higher impact of pain on quality of life compared to DN4− (n = 10). DN4+ was associated with more frequent loss of cold sensation, reduced QST thresholds at the unaffected side and increased thresholds at the affected side. The CPT increased pain thresholds similarly in both groups.

**Conclusions:** Central neuropathic pain mechanisms may play a larger role in chronic PSSP than is traditionally assumed. With the DN4, it is possible to select a subgroup of PSSP patients with more severe pain complaints and sensory abnormalities. Subgroup identification based on the DN4 might be used in future longitudinal and intervention studies to further explore the mechanisms underlying PSSP.

**121 ASSESSMENT OF LOCAL MECHANICAL PAIN SENSITIVITY IS NOT DIAGNOSTIC FOR CERVICAL ZYGOPHYPAL JOINT PAIN**
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**Background and aims:** Zygaphyral joints are well documented sources of chronic neck pain. Unfortunately, simple non-invasive diagnostic methods for this condition lack scientific validation and the only validated tool to diagnose zygaphyral joint mediated pain are invasive zygaphyral joint nerve blocks. We hypothesized that symptomatic joints display lowered pressure-pain-thresholds, allowing the development of a non-invasive quantitative diagnostic tool.

**Methods:** Patients with unilateral chronic neck pain meeting the clinical criteria for diagnostic zygaphyral joint nerve blocks were included. The exact location of each zygaphyral joint (C2–3 until C6–7) of the painful and non-painful side were located by ultrasound. Pressure-pain-thresholds (PPT) were measured directly over each of the joints using an electronic pressure algometer. Afterwards conventional zygaphyral joint nerve blocks were performed as diagnostic “Gold Standard”.

**Results:** 33 patients underwent zygaphyral joint nerve blocks. Zygaphyral joint pain was present in 14 patients, of whom 13 were positive for one joint, one patient was positive for two joints. There was no statistically significant difference in PPT between the affected and the contralateral joint. There was no statistically significant difference in PPT between the affected joint and non-affected joints on the same side. No statistically significant difference in PPT at the painful side was found between the patients with and without zygaphyral joint pain.

**Conclusions:** The assessment of mechanical pain thresholds does not reliably help to distinguish zygaphyral joint mediated pain from other sources of pain in patients suffering from chronic, unilateral neck pain.

**122 CHRONIC PELVIC PAIN DUE TO PUDENDAL AND PELVIC Plexus neuropathy AS NEUROLOGICAL SEQUELAE OF ANORECTAL SURGERY**
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**Background and aims:** Prevalence of pelvic postoperative Pudendal and Pelvic Plexus Neuropathy (PPPN) is not known. While advances in minimally invasive technique in ano-rectal surgery (ARS) have recently gained world-wide success, the occurrence of chronic pelvic pain, proctological, uro-andrological, gynaecological and neurological sequelae remain high. New attainment of neurophysiology and neuroanatomy of perineal and pelvic area, play essential role in avoiding and reducing co-morbidity.

**Methods:** From 2001 to 2008, 431 pts underwent Somatosensory Evoked Potentials of Pudendal nerves (SEP), Sacral Reflexes (SR), ElectroNeuroGraphy of Pudendal nerves (ENC), ElectroMyography of perineal muscles (EMG), Sympathetic Skin Response (SSR) after ARS. For 299 pts (69.37%) chronic pelvic pain CPP was the major complaint. Visual Analogical Scale, McGill Pain Questionnaire completed the evaluation.

**Results:** Neurophysiological alterations were found in 96% of pts as a sequelae of ARS (monolateral PPPN in 85%, altered SEPs in 62%, EMG in 89%, ENG in 85%, RS in 75%, SSR in 92%). For 32 pts a Stapled Transanal Rectal Resection (STARR) was previously performed. PPPN was responsible for CPP, defecatory urgency, hypertonic perianal muscle contraction and hypersensitivity of perineal area showed a Neurophysiological assessment was more sensitive rather than scores and clinical evaluation in revealing the pathophysiology of CPP.

**Conclusions:** Neurophysiological assessment of the pelvic floor is able to clarify the pathophysiology of post-operative CPP due to PPPN and to address to suitable therapy. Knowledge of a potential iatrogenic neuropathy responsible for chronic pelvic pain is mandatory for patients selection and technical approach in ARS.