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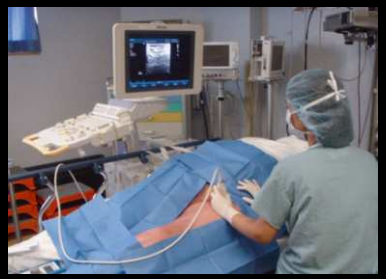
PERCUTANEOUS ELECTRICAL NERVE STIMULATION (PENS):

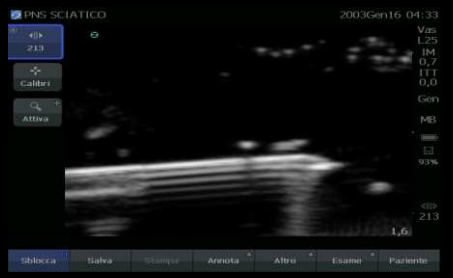
A new therapy for neurophatic pain

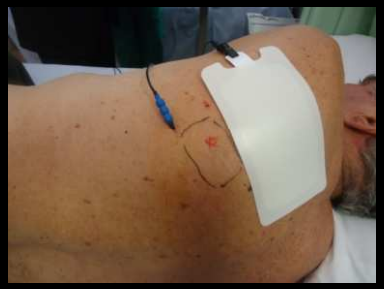
AIM: To evaluate the effect of Percutaneuos Electrical Nerve Stimulation (PENS) in the management patients with chronic localised neuropathic pain.

METHODS: A total of 42 patients with different diagnosis of neuropathic pain of > 6 months duration undergone to three PENS sessions. Patients repeated PENS after 30 and 90 days from the first session. Each treatment was administered for 30 minutes. 18 patients of the total sample had diagnosis of FBSS with pain in the scare site, 12 suffered from cephalea, 4 from trigeminal nevralgia, 5 from Post Herpetic Nevralgia and 3 from neck pain. Pretreatment assessment included Short-Form Health Survey (SF-36) and a 10 cm visual analogic scale (VAS) for Pain, Quality of sleep, Physical activity, Anxiety, Depression, General well-being. Before each session patients completed VAS and SF-36. The changes in VAS and SF-36 were used as PENS outcome measures.

RESULTS: PENS was well tolerated by patients and there was not any type of complications during stimulation and post stimulation session. Subjects displayed a significant reductions in pain intensity measures from pre-to post-treatment both after the first session ($p<.0001$) and second session ($p<.001$). Similarly we observed a significant reduction in pain-related disability, with an improvement in Physical Activity after both session ($p<.001$; $p<.05$ respectively) and General well-being ($p<.001$; $p<.05$). Anxiety, Depression and Quality of sleep improved but not in significant way. The SF-36 health survey confirmed that PENS improved post-treatment functions mainly after the first session. In particular we observed an improvement in Physical Functioning ($p<.01$), Role Physical ($p<.01$), in Vitality ($p<.001$), Role Emotional ($p<.05$), Mental Health ($p<.001$) and Bodily Pain ($p<.05$). SF-36 Physical Component and SF-36 Mental Component showed a significant improvement in patients quality of life ($p<.01$; $p<.01$). After the second session quality of life continued to improve but not in a significant way.







CONCLUSIONS: PENS appeared to be a useful and safety nonpharmacological modality to treat localized chronic neuropathic pain. In addition to decreasing pain intensity, PENS improved physical activity, sense of well-being and mood. Several studies are needed to determine the efficacy in different pain conditions and to evaluate long-term effects.