The importance of Quantitative Sensory Testing in diagnosis and treatment management

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Background and aims
Post-operative Chronic Pain, multifactorial entity, is important clinically and economically. We present the case of a teenager with neuropathic pain with Quantitative Sensory Tests (QST) guided treatment.

Case report
A ten year-old female, 40Kg, victim of inferior limb (IL) trauma, submitted to seven surgeries, was referred to Chronic Pain Unit three months after the accident, due to severe neuropathic pain of the IL, and initially medicated with Gabapentine and Amitriptyline.

Two months later her clinical symptoms persisted with severe allodynia of the left thigh and dorsum of the foot, temperature changes, hyperalgesia/ hypoesthesia. She was scheduled for QST and application of 5% lidocaine patch (5%LP).

The first QST: hypoesthesia at Cold Detection Threshold (CDT), Thermal Sensory Limen (TSL); hyperalgesia at Heat Pain Threshold (HPT), Pressure Pain Threshold (PPT) and severe mechanic allodynia (Dynamic Mechanical Allodynia “DMA”). Amitriptyline was stopped, 5%LP initiated -but she referred severe pain with the extraction of the patch. Applying small rectangular portions, allowed for reduction of allodynia (VAS 5/10) and higher tolerance by the patient. On the fourth month the 5%LP full patch was tolerated.

The sixth month QST: hyperalgesia at TSL, normal PPT and Mechanical Pain Sensitivity. DMA was reduced, Wind-up ratio applicable at 64 mN. Allodynia diseapeared.

Discussion:
QST is useful in evaluating painful/non-painful neuropathic conditions, evaluating gain/loss of neuronal function; clinical surveillance of treatment. 5%LP in this patient according to symptoms and DMA was essential to pain relief/improving quality of life.