

HIGH DENSITY SCS FOR TREATMENT OF CHRONIC BACK AND LEG PAIN AFTER FAILURE TO HF10 SCS: A CASE REPORT

Iris Smet, Jean-Pierre Van Buyten

Multidisciplinary Pain Centre AZ Nikolaas, Sint -Niklaas, Belgium



Background:

SCS for treatment of chronic pain uses electrical pulses to block pain signals at the level of the dorsal column. Apart from traditional SCS, a number of options using higher frequencies are currently being used for treatment of chronic low back and leg pain. We report the outcome of high density (HD) stimulation in a patient who had a failed trial with HF10.

Methods:

A female patient, age 60, who had received surgeries for spinal stenosis was referred to our pain clinic for treatment of chronic low back and bilateral leg pain.

Pain was as follows: VAS low back 7/10; right lower leg VAS 8/10 + burning foot; left lower leg VAS 5/10.

She received the following pain medication: Gabapentin 3x300mg; Zaldiar (paracetamol 325 mg/tramadol 37,5 mg) 3x daily; Pramipexole 0,18 mg, Sipralaxa 20 mg / Lormetazepam 2mg.

Results:

An SCS trial with HF10, i.e. using two eight-polar leads according to standard technique, was started in July 2015 for a period of 4 weeks, as required in Belgium. At the end of the trial period no effect on low back and leg pain was shown and the HF10 trial subsequently stopped and the leads removed.

Because the pain was unresolved and the pain considered unbearable, two months later, a trial with HD SCS was started for a 4 week period. A single 8-contact MRI-safe lead was implanted (tip at T8) and programmed (0+,1-,2-,3+) with a pulse duration of 800 micros and a frequency of 300 Hz. At the end of the trial period low back and leg pain were reduced by more than 50% and medication use reduced.

Figure 1. Fluoroscopic image showing the placement of the lead with the tip of the lead at T8.



In December 2015 a rechargeable pulse generator with automatic amplitude adjustment was implanted and SCS continued at the same contacts and with 500 micros and 500 Hz. Amplitude was 2,6V.

Current pain ratings are: low back pain VAS 2/10, leg pain left and right VAS 4/10 (burning sensation feet). In addition the patient has improved sleep quality and could taper down analgesics: Gabapentin 2x300 mg and Zaldiar 1x/day. To compensate for the higher energy use the battery is recharged twice a day for one hour.

Conclusions:

This case report shows that HD SCS can provide pain suppression even in case HF10 SCS is unsuccessful. HD SCS provides unique individual patient programming options that supports flexibility in optimizing outcomes. Long term follow up needs to be performed to demonstrate the sustained effect.

