**The effects of ITP on newly developed pain in patients with CRPS treated by SCS.**

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**Purpose**

To demonstrate the effect of IntraThecal morphine Pump (ITP) for the relief of newly developed pain in patients with Complex Regional Pain Syndrome (CRPS) after Spinal Cord Stimulation (SCS)

**Materials and Methods**

SCS treated Thirty-eight patients with CRPS since November 2011. Four patients of these patients developed pain in the other body part. These patients complained complex and general pain around the body with vague, burning and sharp characteristics unresponsive to medication with opioid and had neuropathic pain symptoms by the DN4 (which stands for Douleur Neuropathique 4) and the LANSS Pain Scale (the Leeds assessment of neuropathic symptoms and signs). Intrathecal morphine trial was performed. Inclusion criteria of ITP were to relieve pain more than 50 percent over seven days after the diagnostic block. Pain intensity was measured using a visual analog score (VAS) and daily morphine consumption was measured at baseline and follow up visits after ITP.

**Result**

Average six months to 1 year After SCS implantation, four patients suffered whole body pain of VAS 9~10. After several trials, we implanted morphine ITP. Before ITP implantation, patients average VAS was 9.25(8~10). After ITP implantation, Immediate post operation VAS was average 3.5(3~5). One week after ITP implantation, average VAS was 3.5 (3~5). One month after ITP implantation was 3.25 (2~5). Three months after ITP implantation was 2(1~3). Morphine pump dose also tended to decrease sequentially. Average start dose was 0.900mg/day (0.6~1.0). One week after implantation, the average dose was 0.8649mg/day (0.6~1.0). 1 month after implantation, average dose was 0.8501mg/day (0.6~1.0). 3 months after implantation, average dose was 0.7276mg/day (0.6~0.8). There was no side effect of morphine, because morphine dose was low (0.6mg/day~1.0mg/day).

**Conclusion**

SCS is used and useful in the treatment of CRPS. Moreover there is a patient whose pain is transferred to the whole body during treatment. In these case, Intrathecal morphine pump may be an effective and useful treatment.