

IMPLANTATION OF SURGICAL ELECTRODES FOR SPINAL CORD STIMULATION: COMPARISON OF CLASSICAL LAMINOTOMY TECHNIQUE VERSUS A MINIMAL INVASIVE UNILATERAL TECHNIQUE CONCERNING POSTOPERATIVE OUTCOME.

J Vangeneugden, R Herz, V Debois

Dpt of Neurosurgery  
AZ St Maarten, Duffel, Belgium

Background: Surgical electrodes for spinal cord stimulation (SCS) have technical advantages towards percutaneous electrodes. The disadvantage however is the surgical procedure and its postoperative consequences. A minimal invasive technique should try to reduce these disadvantages. This prospective study compares ten patients in the minimal invasive unilateral technique (MIT) group to ten patients in the classical midline laminotomy (CML) group for electrodes at thoracic level.

METHODS: In both groups postoperative wound pain was measured using the VAS score on the first and third day after electrode implantation. Ability of mobilisation of the patient was observed the first and third day too. Length of hospital stay was compared. Patients were asked (on the third day) if they would, if necessary, undergo the same procedure again.

RESULTS: The CML group had a mean VAS score, concerning local post-implantation pain, at the first day of 4 (3-6) and at the third day of 3 (2-6). The MIT group had a mean VAS score at the first day of 2,3 (1-3) and at the third day of 1,6 (1-3). Mobilisation of the patient went faster in the MIT group. In the MIT group, 90% would undergo the procedure again, against 70% in the CML group. Hospital stay in the MIT group was 3,2 days versus 4,1 days in the CLT group.

CONCLUSIONS: The minimal invasive unilateral technique for implantation of electrodes at thoracic level has some advantages to classical midline laminotomy: less local discomfort the first days, quicker mobilisation and shorter hospital stay. In a combination with a spinal anesthesia at low thoracic level, the MIT combines the advantages of a fully awake, comfortable implantation procedure, less postoperative discomfort and a surgical electrode.