

Abstrakt 2

New strategies of pelvic nerves stimulation for recovery of pelvic visceral functions and locomotion in paraplegics

Autor(en):

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Einleitung:

To present new strategies of pelvic nerves stimulation to enhance micturition, to control spasticity and to recover locomotion in paraplegics.

Material und Methodik:

Three consecutive patients - respectively complete Th5, Th7 and Th10 spinal cord injured ? underwent laparoscopic transperitoneal implantation of octipolare electrodes to the sciatic and the pudendal nerves and one double extradural Brindley-Finotech electrode bilaterally to the sacral nerve roots S3 and S4. The two octipolare electrodes were connected to an implanted rechargeable generator while the double Brindley electrode was connected to an implanted Brindley-Finotech receiver block.

Ergebnisse:

Continuous stimulation of the sciatic and pudendal nerves at a frequency of 20Hz in all three patients permits complete control of the spasticity of the lower extremities and of reflex incontinence. Bladder emptying is obtained by sacral nerve roots stimulation alone in the first patient, by simple interruption of pudendal stimulation in the second (?pudendal-deblockade?) and by simultaneous sacral nerve roots stimulation with high-frequency pudendal nerve blockade in the third patient. Functional electrical stimulation of the femoral nerves enables the Th4 paraplegics lower-limb cycling and the two further patients standing and alternative locomotion.

Schluss:

This short series indicated that laparoscopic implantation of neuroprosthesis to the pelvic nerves offers absolutely new strategies based on new combinations