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Oral Presentation

Sensory re-innervation of the penis in male patients with spina bifida

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Background

Most of the male spina bifida patients have sensory loss in the glans-penis while having a usable erectile function. Functional sensory re-innervation of the penis would contribute to their quality of life. Transposition of an intact functional sensory nerve to the dorsal nerve of the penis (DNP, S2-S4) might be an option to try to achieve this goal. The first three patients were operated in a prospective pilot study.

Patients and Methods

Three spina bifida patients with no sensation of their glans-penis and good sensation in the groin area (ilioinguinal nerve, L1) were selected. Pre-and postoperatively the patients were evaluated by a sexologist to attain information about general and sexual functioning. All three were operated through an incision over the course of the right or left ilioinguinal nerve to the base of the penis. The ilioinguinal nerve was cut distally and the ipsilateral DNP proximally. The two nerve-ends were approximated and joined by microneuroraphy. The first patient (18 years, L4) was operated in December 2001 and in 2002 we operated the two other patients (17 years, L5 and 21 years, L3-L4).

Results

In all 3 patients the operated side of the glans and distal shaft has gained an excellent sensory function. The patients are able to discriminate between hot and cold, sharp and soft and have 2-point discrimination at the operated side of the shaft and glans of the penis. The inflicted stimuli however were experienced as if the groin was being touched and were not erogenous in naturein 2 patients, the third has remapped the area. The area innervated by the ilioinguinal nerve has diminished sensation without causing any discomfort, pain or paresthesias to the patient. Results concerning psychologic advancement and development of sexual function are promising. All patients state that they have gained a new part of their body with improved self-esteem.

Conclusion

Although the recovery of unilateral sensory function in the glans (and shaft) of the penis is not (yet) erogenous in nature in 2 patients and stimuli are still experienced as stimuli in the groin, the first 3 operations are a technical success with improvement of sexual and psychological functioning of the patients. We believe that ilio-inguinal-to dorsal penilenerve-transposition at an earlier age will contribute to a more effective sensory re-education of the brain.