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Procedure restores genital sensation in men with spina bifida, spinal cord injury

By Will Boggs, MD

NEW YORK (Reuters Health) – A new surgical procedure restores genital sensation and improves sexual health in men with spina bifida or spinal cord injury (SCI).

“From now on there is a way to establish sensation (TOMAX-procedure) in the (glans) penis in patients with a spinal lesion below L1,” Dr. Max L. E. Overgoor from Isala Clinic, Zwolle, The Netherlands told Reuters Health.

“In about 90% of the patients this will lead to restored sensation which is firstly felt in the groin, but in most patients this will be transferred to the glans penis through plasticity of the brain,” Dr. Overgoor said.

Earlier, Dr. Overgoor and colleagues had used the ilioinguinal nerve as a neurological bypass to restore sensation in three spina bifida patients in a pilot study. The current study, reported online October 17th in The Journal of Urology, involved 30 men (18 with spina bifida, 12 with SCI).

Twenty-seven patients were successfully operated on and had follow-up results. The ilioinguinal nerve could not be used in the other three patients (all with SCI).

By the second postoperative visit, 24 men (80%) had unilateral genital sensation which was experienced as “groin” in 13/24 (54%) and as “glans” in 11/24 (46%).

The site originally served by the transplanted nerve had diminished sensation in most patients, but none of them missed the groin sensation or experienced long-term discomfort or pain.

All patients retained their preoperative ability to have erections and ejaculations, although the mechanism of erection in five patients changed from a psychogenic-only pathway before surgery to a combined psychogenic-reflex pathway after the procedure.

Measures of sexuality improved, with three men experiencing orgasmic feelings for the first time, most men reporting increased satisfaction with their sex life in general, and 19 reporting better sexual functioning.

Men who had “glans” sensation were more easily aroused, masturbated more frequently, and were more satisfied with their sexuality than men who had “groin” sensation.

“Lost genital sensation is only mentioned in studies but no one has ever reported on restoring it,” Dr. Overgoor said. “So this is the first report (plus our pilot study in 2006 Journal of Urology) in which it is tried and with good success.”

“Plastic- and reconstructive surgeons can do this very well but anyone with skills in peripheral nerve- and microsurgery can do it also,” Dr. Overgoor said. “A publication on technical details is being prepared at the moment and doctors can always contact me.”

“Since the first patients were already operated 10 years ago we are planning to do a long-term follow-up study and ask patients if they will come back again in the clinic and do neurological sensory testing again and do a short version of the questionnaire/interview as we did with the present study,” Dr. Overgoor added. “Patients seen recently who were operated more than five years ago also developed sensations on the contralateral non-operated side so this is very interesting.”

“I was not aware of this procedure,” Dr. Jaimie Borisoff from British Columbia Institute of Technology in Burnaby, British Columbia, Canada told Reuters Health. “This seems like a very promising approach for specific individuals that meet the required intact neurological function.”

“Very little research has been conducted specifically addressing genital sensations,” Dr. Borisoff said. “As such there are not many other alternatives for people with spina bifida or SCI who lack genital sensation. I commend the research team for their efforts in this under-funded and under-studied area.”

Dr. Borisoff says there is great potential to address the secondary complications of SCI and other disabilities and thereby make significant gains to health and quality of life.

“This cannot be overstated in face of the massive emphasis by the medical and research communities on mostly tackling ‘cures’ and walking function,” Dr. Borisoff said. “This is a great example of a pragmatic approach.”

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