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Liao L.¹, Xie K.², Chen Z.³

1. Dept. of Urology, Beijing Boai Hospital, China Rehabilitation Research Center, 2. The Second Hospital, Guangzhou Medical college, 3. Wuhan Tongji Hospital

SACRAL NERVE STIMULATION IN THE PATIENTS WITH NEUROGENIC VOIDING DYSFUNCTION DUE TO SACROCOCCYGEAL DEFECT

Aims of Study

To report the initial results of sacral nerve stimulation (SNS) for patients with neurogenic voiding dysfunction due to sacrococcygeal defect.

Methods

A prospective, observational, pilot study enrolled patients with sacrococcygeal defect at three centers. Entry criteria were frequency, urgency, straining and residual urine (RU) coupled with X-ray findings of sacrococcygeal defect. For each patient, voiding diary for seven days and urodynamic assessment were finished before percutaneous nerve evaluation (PNE). PEN was performed under local anesthesia with temporary wires placed at S3 nerve root. An external stimulator was worn for seven days to test the effect of stimulation, patients were asked to record voiding diary for seven days during testing. The improvements of frequency, urgency and RU after PNE were calculated respectively, the patients who underwent > 50% improvement in the major symptoms were gone on to implantation for InterStim.

Results

6 patients (5 males, 1 female) were recruited. Mean age was 46.2±5.7 years (range from 21 to 63). In 6 patients, 2 cases had no improvement for frequency, urgency and RU, one had a < 50% improvement for these symptoms, 3 cases had at least a > 50% improvement in one of these symptoms and were gone on to implantation. In these 3 patients for implantation, patient A had a 71% reduction in urgency per day and a 122% increase in average volume voided; B had a 66% increase in average volume voided and a 88% decrease in RU; C only had a 68% reduction in RU. 33% of patients had a negative response to PNE, 67% had a good response. The permanent implantation rate was 50%.

Conclusions

SNS or sacral neuromodulation is demonstrated to provide benefits in patients with neurogenic voiding dysfunction due to sacrococcygeal defect. These benefits are depended on the degree of severity of sacrococcygeal defect and lesion of sacral nerves. PEN is important for screening out the candidates for implantation. Sacrococcygeal defect seems to be a new indication for SNS or sacral neuromodulation.