

## SACRAL NEUROMODULATION OUTCOMES FOR IDIOPATHIC OVERACTIVE BLADDER STRATIFIED BY INDICATION: LACK OF ANTICHOLINERGIC EFFICACY VERSUS INTOLERABILITY

### Hypothesis / aims of study

Retrospective chart review was performed on all patients undergoing staged sacral neuromodulation (InterStim®, Medtronic Inc., Minneapolis, Minnesota) from 2004 to 2009 for the management of refractory idiopathic OAB with or without urge incontinence. All patients failed anticholinergic medications either due to lack of medication efficacy or side effect intolerability. Patient outcomes following sacral neuromodulation were compared based on indication: lack of efficacy versus intolerability of anticholinergic medication. A successful outcome following the procedure was defined as >50% symptomatic improvement resulting in progression from stage I to stage II (permanent) implantation.

### Study design, materials and methods

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### Results

134 patients were included in the study. Overall, sacral neuromodulation was successful in 94/134 (70%) patients. Stratified pre and post procedural variables between the two cohorts are listed in table 1.

Table 1

|   | <b>Lack of efficacy</b> | <b>Intolerable side effects</b> | <b>P value</b> |
|---|-------------------------|---------------------------------|----------------|
| <b># of patients</b>                      | 116                     | 18                              |                |
| <b>Age</b>                                | 54.8                    | 55.8                            | NS             |
| <b>Gender (F:M)</b>                       | 101:15                  | 15:3                            | NS             |
| <b># of medications trialed</b>           | 3.0                     | 3.1                             | NS             |
| <b>Sacral neuromodulation success (%)</b> | 81/116 (69.8)           | 13/18 (72.2)                    | NS             |

### Interpretation of results

Anticholinergic agents act by blocking neuromuscular transmission at the acetylcholine receptor, the main mechanism of detrusor contractions. Sacral neuromodulation is hypothesized to improve OAB symptoms by primarily targeting afferent nerves of the bladder and modulating the interactivity between the central nervous system, peripheral nervous system, bladder and urinary sphincters. We hypothesized that sacral neuromodulation outcomes would not be affected by the reason for anticholinergic failure. These OAB treatment modalities target different points in the overall scheme of bladder storage function - anticholinergics at a local level (urothelium and detrusor), sacral neuromodulation at higher levels (peripheral nerves and central nervous system). The finding that no significant difference was noted between our two cohorts is consistent with our hypothesis, although larger studies are needed for confirmation.

### Concluding message

There is no significant difference noted in outcomes of patients undergoing sacral neuromodulation for OAB due to lack of anticholinergic efficacy versus drug intolerability.

|   |         |
|---|---------|
| <b>Specify source of funding or grant</b>               | none    |
| <b>Is this a clinical trial?</b>                        | No      |
| <b>What were the subjects in the study?</b>             | HUMAN   |
| <b>Was this study approved by an ethics committee?</b>  | Yes     |
| <b>Specify Name of Ethics Committee</b>                 | MCW IRB |
| <b>Was the Declaration of Helsinki followed?</b>        | Yes     |
| <b>Was informed consent obtained from the patients?</b> | No      |