

## Purpose

To assess whether sacral nerve stimulation (SNS) is superior to botulinumtoxin A (Botox-A) in the refractory overactive bladder(OAB).

## METHODS

Key words were searched in: PubMed, EMBASE and Cochrane library with “Botulinum Toxin A”, “botulinum type A toxin”, “Onabotulinumtoxin A”, “Sacral nerve stimulation”, “Sacral neuromodulation”, and “refractory overactive bladder”. Randomized and nonrandomized controlled trials evaluating all women who underwent SNS and Botox-A injection were included. A data extraction tool was used for data collection. The outcomes, side effects and cost-effectiveness value of both procedures was compared in meta-analysis.

## RESULTS

3 studies with 853 patients evaluate the effectiveness and safety, the results indicated women with refractory OAB receiving SNS had similar improvement in OAB symptoms with Botox-A injection [risk ratio(RR)0.88,95% CI 0.63-1.23]Fig1. The Botox-A and SNS group had no significantly difference in failure rate of treatment [risk ratio(RR)1.10,95% CI 0.79-1.55]Fig2. But, the complication rate, such as urinary tract infection, was lower in SNS group than in Botox-A group [risk ratio(RR)3.65,95% CI 2.57-5.18]Fig3. 3 studies assess and compare the costs and effects value of either procedure from a societal perspective. The result showed that SNS is costeffective after 5 years and 10 years compared to Botox-A.

## CONCLUSIONS

Compared with Botox-A, SNM is the superior choice for refractory OAB based on the same efficacy, lower complications and better cost-effectiveness. However, clinical-decision making is still complex and exciting task for doctors, and more studies with large sample and long-term is still needed.

Fig 1. Three trails enrolling 628 patients ( SNS group=303 ; Botox-A group=325 ) reported the changes in OAB symptoms after SNS intervention. The results indicated women with refractory OAB receiving SNS gained similar improvement in OAB symptoms with botulinumtoxin A (Botox) injection [risk ratio(RR)0.88,95% CI 0.63-1.23].

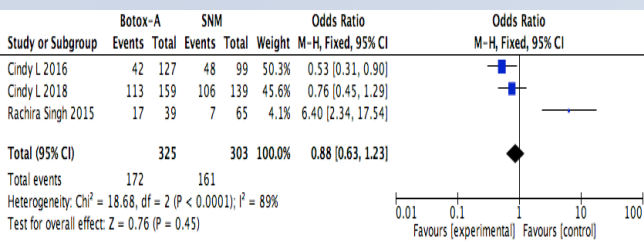


Fig 2. Three trails enrolling 628 patients ( SNS group=303 ; Botox-A group=325 ) reported the changes in OAB symptoms after SNS intervention. There was no significant difference in failure rate between Botox-A group and SNS group [risk ratio(RR)1.10,95% CI 0.79-1.55].

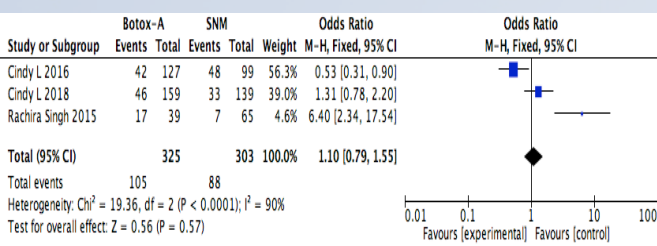


Fig 3. Three trials with total of 771 patients ( SNS group=328 ; Botox-A group=389 ) reported the complication after these two treatment . The pooled results showed significantly lower complication rate (urinary tract infection) of after SNS than Botox-A [risk ratio(RR)3.65,95% CI 2.57-5.18].

