• Urinary incontinence (UI) secondary to neurogenic pathology, including spinal cord injury (SCI) and Multiple Sclerosis (MS), is termed neurogenic detrusor overactivity (NDO). \(^1,2\)
• Patients with NDO experience a decrease in health related quality of life (HRQoL) if they are not able to respond to or discontinue anticholinergic therapy which are often accompanied by clean intermittent self-catheterization (CIC). \(^1\)
• Currently, the most commonly used options for patients who do not respond to initial treatment are invasive procedures such as implantable devices to chronically stimulate the sacral nerve or surgical bladder augmentation. \(^1\)

Methods

We developed a Markov state transition model to estimate outcomes and costs for anticholinergic refractory NDO patients who received onabotulinumtoxinA or best supportive care (BSC). The model was parameterized using data from Phase III clinical trials of onabotulinumtoxinA, the UroLume Pooled Population, \(^3\) and the European Federation of Neurological Societies NARCOMS Patient Registry. \(^4\)

We investigated the clinical and economic impact of onabotulinumtoxinA treatment for UI due to NDO from the US payer perspective.

Results

OnabotulinumtoxinA increased QALYs by 0.06 and costs by $1,470 compared to best supportive care, yielding an estimated ICER of $24,720/QALY. OnabotulinumtoxinA also decreased mean incontinence episodes per person-year by 400, resulting in a cost of $4 per incontinence episode avoided.

Conclusions

The probabilistic sensitivity analysis indicated that at a willingness to pay of $50,000/QALY, onabotulinumtoxinA has a 97% probability of being cost-effective. In subgroup analyses of each etiology, onabotulinumtoxinA yielded an ICER of $32,270/QALY in MS and $2,180 in SCI.

Limitations:

• The utility measures applied lack sensitivity to the incremental benefits of urinary incontinence episode reduction.
• Information on real world resource utilization for the best supportive care arm is lacking, which may bias the difference in costs (less data-driven); thus, a trial-based resource utilization approach was implemented.
• This study did not account for the additional costs for patients on best supportive care who use combination anticholinergics or higher than labelled doses in actual practice. \(^2\)

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