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BOTULINUM TOXIN TYPE A VERSUS ORAL ANTICHOLINERGIC MEDICATION COST-EFFECTIVENESS FOR THE TREATMENT OF NEUROGENIC DETRUSOR OVERACTIVITY.

Hypothesis / aims of study
The aim of this study was to determine the cost-effectiveness of Botulinum Toxin type A (BT-A) vs. oral anticholinergic medications for the treatment of neurogenic detrusor overactivity (NDO) from the public payer's perspective.

Study design, materials and methods
A Markov decision model was developed to compare the overall costs (in US dollars, USD) and effectiveness (persistent incontinence-free years) of oral anticholinergics and Botulinum Toxin type A injected into the detrusor. The incremental cost-effectiveness ratio (ICER) was calculated as (Botulinum toxin type A cost – oral anticholinergic cost) / (Botulinum toxin type A incontinence-free years – oral anticholinergic incontinence-free years). A 10-year time frame with monthly cycle was designed based on data from a systematic review of clinical and observational studies to simulate NDO patients' long-term outcome. A one-way sensitivity analysis was performed. We applied a five-percent annual discount to costs and benefits.

Results
Although Botulinum toxin type A was more costly, it was more effective when compared to oral anticholinergics within a ten-year period. The persistent urinary incontinence-free period was estimated to be 7.29 and 3.00 years for BTX-A and oral medication, respectively. The incremental cumulative cost in 10 years was 1,707 USD, which represents a discounted monthly cost of 61 USD for BT-A and 46 USD for oral anticholinergic medication. To achieve an additional one incontinence-free year, an investment of 397 USD in BT-A would be needed, when compared to oral medication.

Interpretation of results
Although BT-A is more costly, it was more effective than the oral anticholinergic treatment for NDO patients.

Concluding message
Considering the high dropout rate with oral anticholinergics due to adverse events or the absence of an effective improvement, BT-A showed a higher projected effectiveness with an acceptable incremental cost-effectiveness ratio (ICER).

Specify source of funding or grant	**Allergan Produtos Farmacêuticos LTDA**
Is this a clinical trial?	**No**
What were the subjects in the study?	**HUMAN**
Was this study approved by an ethics committee?	**No**
This study did not require ethics committee approval because	**A Markov decision model was used to compare both treatments. A Markov model simulates a hypothetical cohort of patients followed over time.**
Was the Declaration of Helsinki followed?	**Yes**
Was informed consent obtained from the patients?	**No**