

Assessing the cost-benefit relationship in BPH therapy

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Any model is only as valid as the assumptions used to establish the model. With that in mind, there are 4 key points to acknowledge so that we can place the conclusions of this paper into context.

First, the authors used progression rates reported by the CombAT trial to generate transition probabilities between the 6 disease states defined in their Markov model.¹ However, the probability of converting from one health state to another is dependent on a given time period. Generating average annual conversion rates over a 4-year trial and using these data to extrapolate transition rates 25 years from now may not be accurate or valid.

Second, their model only accounted for discontinuation rates due to adverse events and lack of efficacy. They did not account for patients who dropped out of the trial or stopped taking their medications for other reasons. Overall compliance rates in the CombAT study or other randomized controlled trials are much lower.²⁻⁴ The compliance rates used for this model, roughly 98% for all groups, are also considerably higher than what would be expected in a “real world” clinical scenario.

From a cost standpoint, the most expensive outcome would involve the use of both combination therapy and surgical intervention. Recent TURP (transurethral resection of the prostate) series have noted that most contemporary TURP patients have undergone a trial of medical therapy prior to surgery.⁵ Therefore, most TURP patients represent this high cost group. Underestimation of actual discontinuation rates may grossly undervalue the true cost of this group. There is evidence that discontinuation of an alpha blocker after a period of combination therapy may provide durable symptom relief.^{6,7} However, these studies lack both long-

term data and rates of progression to surgical intervention. Any benefit maintained would only be seen by those who continue 5-ARI (5-alpha reductase inhibitors) therapy in the absence of an alpha-blocker. This small subgroup is unlikely to offset the total cost of those who come off both their medications and progress to surgery.

Third, the utility model used by the authors assumes that patients undergoing successful TURP have the same health state utility as those with moderate voiding symptoms. In a recent meta-analysis of TURP studies, follow-up International Prostate Symptom Score (IPSS) for TURP patients were very favourable.⁸ The vast majority of the included studies had mean IPSS scores after treatment of much less than 12, the lower end of the cut-off used for moderate symptom burden in the authors’ model. This would argue that these patients have a health state utility more comparable to those in the mild symptom burden category. Overstating the symptom burden in successfully treated TURP patients overestimates the quality-adjusting life years gained by patients in the dutasteride and combination groups who avoid surgery.

Lastly, the model is missing both an upfront surgical arm as well as a watchful waiting arm. Admittedly, the authors would be unable to generate such a model using the CombAT data alone and such an analysis is really beyond the scope of their paper. Consequently, it really does not answer the question of whether combined medical therapy is the most cost-effective solution to benign prostatic hyperplasia (BPH). Rather, it attempts to answer the question of whether combination therapy is the most cost-effective form of medical therapy. Given that most men receiving treatment for BPH are started on medical therapy, this may be an entirely reasonable limitation.

Although I do believe there may be some methodological flaws in the authors’ model, this study does serve an important purpose. As we struggle to cope with increasing healthcare expenditures, medical practitioners need to understand the true costs and benefits gained by the therapies we prescribe. This study may overestimate the benefit

of combination therapy, but studies such as this one serve an important first step in establishing the cost-benefit relationship within the context of the Canadian healthcare system.

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