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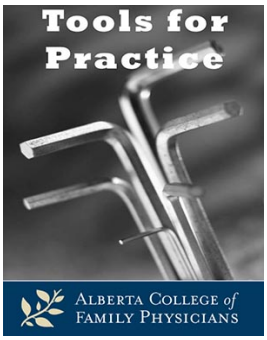

Alpha blockers for BPH-LUTS: Let it flow or still slow?

Clinical Question: How effective are alpha-blockers in reducing lower urinary tract symptoms (LUTS) in men with benign prostatic hypertrophy (BPH)?

Bottom Line: Alpha-blockers are effective as first line therapy for LUTS-BPH. Compared to placebo, around 1 in 10 will have improved symptoms and/or avoid symptom progression while approximately 1 in 50 will experience hypotension or dizziness. Mainly indirect comparisons suggest doxazosin and terazosin may be slightly more effective but have increased risk of adverse events.

Evidence:

- 15 systematic reviews of alpha-blockers in symptomatic BPH.[1]
  - Versus placebo (26 Randomized Controlled Trials (RCTs)): Alpha-blockers:[2]
    - Improved peak urinary flow (Qmax): 1.32 ml/s.
    - Decreased symptoms [International Prostate Symptom Score (IPSS)]: -1.92.
  - Network meta-analysis (124 RCTs)[3] compared doxazosin, terazosin, alfuzosin, and tamsulosin:
    - Improved Qmax (ml/s): 1.95, 1.21, 1.07 and 1.07 respectively.
    - Decreased IPSS by: -3.67, -3.37, -2.13, and -2.07 respectively.
      - Doxazosin significantly better for both outcomes.
    - Doxazosin and terazosin (non-uroselective): Significant increase in adverse events (dizziness and headache).
- Systematic review compares alpha-blockers to finasteride (alpha-reductase inhibitor).
  - 23 RCTs (20,821 patients) finasteride:[4]
    - Inferior to doxazosin and terazosin for Qmax and IPSS at one year.
    - Non-inferior to tamsulosin.
  - Finasteride and dutasteride similarly effective.[5,6]
- RCT (3,047 men) of placebo versus doxazosin, finasteride, or combination. Compared to placebo, doxazosin:[7]
  - Reduced BPH symptom progression, Number Needed to Treat (NNT)=15 over four years.

    - Increased hypotension (Number Needed to Harm (NNH)=58) and dizziness (NNH=48).
- Three pooled RCTs (955 patients):[8] More men receiving alfuzosin (76%) reached ≥3 point improvement on IPSS than placebo (62%), NNT=7.

Context:

- Guidelines recommend alpha-blockers as first line therapy for symptomatic BPH.[9,10]
- Clinically meaningful improvement of IPSS is ≥2-6, depending on baseline.[11]
- Transurethral resection[12,13] of the prostate improves Qmax 10-11 ml/s and decreases IPSS 16.7.
- Alpha blockers associated with increased risk of falls (NNT=589) and fracture (NNT=1,667).[14]
- 2013 systematic review comparing alpha-blockers to combination therapy with alpha reductase inhibitors: Combination therapy effective for enlarged prostates and treatment for >1 year.[15]

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Disclosure:
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