Tamsulosin for benign prostatic hyperplasia and risk of severe hypotension

Overview: Lower urinary tract symptoms (LUTS) can be a major problem for men as they get older. One of the most common causes is benign prostate enlargement, which occurs when the number of cells in the prostate increases (benign prostatic hyperplasia). Alpha blockers, which are often used to treat benign prostatic hyperplasia, are known to cause hypotension (notably postural hypotension).

Current advice: The NICE guidance on LUTS advises that drug treatment should be offered only to men with bothersome LUTS when conservative management options have been unsuccessful or are not appropriate. Recommended drug treatment options vary depending on the specific symptoms and their severity. An alpha blocker (alfuzosin, doxazosin, tamsulosin or terazosin) should be offered to men with moderate to severe LUTS. Other drugs, such as a 5-alpha reductase inhibitor or an anticholinergic, may be used alone or as well as an alpha blocker in certain circumstances. Men taking drug treatments should be reviewed to assess symptoms and the effect of the drugs on their quality of life, and to ask about any adverse effects from treatment. For men taking alpha blockers, review should take place at 4–6 weeks, then every 6–12 months.

The British National Formulary advises that patients taking alpha blockers who are also receiving antihypertensive treatment may need reduced dosage and specialist supervision. Alpha blockers are contraindicated in patients with a history of postural hypotension and micturition syncope. The summaries of product characteristics for alpha blockers used in LUTS, including those for tamsulosin, advise caution if initial symptoms of postural hypotension start to appear (for example, dizziness or weakness) in a patient taking one of these drugs.

The NICE pathway on LUTS in men brings together all related NICE guidance and associated products on the condition in a set of interactive topic-based diagrams.

New evidence: A US population-based retrospective cohort study and case series analysis (Bird et al. 2013) assessed the risk of severe hypotension at various time intervals during tamsulosin treatment in men with benign prostatic hyperplasia. The cohort included 383,567 men aged 40–85 years who had recently started tamsulosin (297,596 men, mean age 62 years) or a 5-alpha reductase inhibitor (85,971 men, mean age 64 years). Information on hypotension resulting in admission to hospital was collected from a database of healthcare insurance claims. Mean duration of treatment was 39 weeks for tamsulosin and 56 weeks for 5-alpha reductase inhibitors.

The incidence of admission to hospital for severe hypotension was 42.4 events per 10,000 person years among new users of tamsulosin and 31.3 events per 10,000 person years in new users of 5-alpha reductase inhibitors. The relative rate of hospital admissions for severe hypotension...
approximately doubled during weeks 1–4 after starting tamsulosin (rate ratio=2.12, 95% CI 1.29 to 3.04) and increased by more than half during weeks 5–8 (rate ratio=1.51, 95% CI 1.04 to 2.18). Although no statistically significant increase in hospitalisation for severe hypotension was seen during weeks 9–12 after starting tamsulosin, a small increase in the rate of events was seen with maintenance treatment. The pattern of hospitalisation for hypotension was similar in men who restarted tamsulosin, and similar results were seen in the case series analysis.

Limitations include that this study was observational and was unable to adjust for all confounding factors, such as ethnicity and lifestyle. The authors did however adjust for concomitant use of antihypertensive drugs, which could contribute to hypotension. For example, nearly half of the men were taking an angiotensin-converting enzyme inhibitor or an angiotensin-II receptor blocker.

**Commentary:** “This observational study adds to our current knowledge base, and in particular will allow more accurate and realistic counselling of patients before starting tamsulosin. However, UK prescribing is unlikely to be affected by these findings – NICE guidance recommends alpha blockers as a treatment option for LUTS after failure of conservative measures. This study may however increase the case for earlier initial follow-up of patients started on alpha blockers. The NICE guideline currently recommends that men taking alpha blockers for LUTS should be followed up at 4–6 weeks, but Bird et al. (2013) reported high levels of hypotension in weeks 1–4.

“Previous studies have shown that the various different alpha blockers have similar efficacy, with side effects and tolerability the main factors influencing drug selection (Milani and Djavan 2005). A previous open-label study reported a very low incidence of orthostatic hypotension secondary to tamsulosin over 4 years in patients with LUTS associated with benign prostatic hyperplasia (1.3%; Narayan et al. 2003). However, follow-up was every 3 months, so this study failed to assess the critical time for hypotension development seen in the observational study (that is, within the first 8 weeks).

“The authors of the present study assumed that all clinically significant hypotension results in hospital admission, which may not be the case. If patients prescribed tamsulosin are advised of the potential side effect of hypotension and its presentation, they may be more likely to seek medical intervention.”

– Mr Ian Pearce, Consultant Urological Surgeon, Manchester Royal Infirmary, and Honorary Senior Lecturer, University of Manchester

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