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THE EFFECT OF CANNABINOIDS ON LOWER URINARY TRACT SYMPTOMS IN MULTIPLE SCLEROSIS: A RANDOMISED PLACEBO CONTROLLED TRIAL (CAMS-LUTS STUDY)

Hypothesis / aims of study
Urinary incontinence affects up to 80% of patients with Multiple sclerosis (MS). Anecdotal reports suggest that cannabis might be beneficial for lower urinary tract symptoms in MS. The Cannabinoids in Multiple Sclerosis, Lower Urinary Tract Symptoms (CAMS-LUTS) study was designed as a subsidiary study to the multicentre randomised placebo controlled Cannabinoids in Multiple Sclerosis (CAMS) study, to test the hypothesis that cannabinoids reduce episodes of urinary urge incontinence, increase functional bladder capacity and improve urodynamic parameters i.e. cystometric capacity, the number and magnitude of overactive detrusor contractions while not adversely affecting voiding function.

Study design, materials and methods
Six hundred and fifty seven patients randomised to receive oral cannabis extract, Δ^9-tetrahydrocannabinol (Δ^9-THC) or matched placebo in a multicentre randomised placebo-controlled trial of cannabinoids for the treatment of spasticity and other symptoms related to multiple sclerosis (CAMS Study) were asked to complete urinary incontinence diaries and quality of life questionnaires. The primary outcome for this study investigating the effects of cannabinoids on lower urinary tract symptoms in multiple sclerosis (CAMS/LUTS) was reduction in urge incontinence episodes. In the study, a subgroup of forty-two patients underwent urodynamic studies and urinary pad tests.

Results
There was a significant reduction in urge incontinence episodes in the treatment groups compared with placebo (Cannabis extract 38% reduction, Δ^9-THC 33% reduction, and Placebo 18% reduction) from baseline. There were no changes on the quality of life measure used, and there was no evidence of a treatment effect in any of the urodynamic outcomes, but for pad test weight the active groups showed a significant treatment effect when compared with placebo (mean reduction of 43·88ml for active treatment, mean increase of 8·27ml for placebo (Mean difference = 52.15ml, 95% CI = 13.38 – 90.92ml, p=0·001).

Interpretation of results
The findings provide evidence for a symptomatic improvement of urinary urge incontinence with cannabinoids in patients with MS.

Concluding message
Our results demonstrate a reduction in urge incontinence episodes measured by patient diary recording, with a reduced pad test loss in the urodynamic substudy in patients with MS treated with cannabinoids.

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