PWE-086

EFFICACY OF LUBIPROSTONE IN THE TREATMENT OF CHRONIC IDIOPATHIC CONSTIPATION: SYSTEMATIC REVIEW AND META-ANALYSIS

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Introduction Chronic idiopathic constipation (CIC) is a functional disorder of the lower gastrointestinal (GI) tract which often leads to persistent symptoms despite treatment.

Lubiprostone is a new orally active prostone, which activates type-2 chloride channels in the GI tract, stimulating intestinal fluid secretion and accelerating transit as a result. We conducted a systematic review and meta-analysis to evaluate its efficacy in CIC.

Methods Randomised control trials (RCTs) comparing lubiprostone with placebo in adults with CIC were identified by searching MEDLINE, EMBASE and conference proceedings up to September 2010. Trials were required to use at least 1 week of therapy. CIC was defined using a physician's opinion, clinical symptoms, or the Rome criteria. Included studies reported dichotomous data assessing patients' response to therapy. Data were extracted by two investigators independently, using an intention-to-treat analysis, with drop-outs assumed to be treatment failures. Where reported, adverse events data were extracted. Data were pooled using a random effects model, and efficacy of lubiprostone in CIC was reported as a relative risk (RR) of failure to respond to therapy, and a number needed to treat (NNT), with 95% CI.

Results The search strategy identified 316 citations. Six were retrieved for further evaluation, and three RCTs, containing a total of 610 patients, fulfilled inclusion criteria and yielded extractable data. Duration of therapy was 3 or 4 weeks. Lubiprostone was more efficacious than placebo in the treatment of CIC, with 151 (45.1%) of 335 patients failing to respond to therapy with lubiprostone compared with 184 (66.9%) of 275 taking placebo. The RR of failing to respond to therapy was 0.67 (95% CI 0.56 to 0.80), with an NNT of 5 (95% CI 3 to 7). All three trials used a dose of 24 micrograms of lubiprostone twice daily. When only this dose was considered in the analysis the treatment effect remained very similar (RR 0.64; 95%CI 0.55 to 0.76). Adverse events were reported by 200 patients (59.7%) taking lubiprostone, but only 94 patients (34.2%) taking placebo (RR 1.79, 95% CI 1.21 to 2.65). Diarrhoea and nausea were significantly more common among those assigned to lubiprostone.

Conclusion Lubiprostone is more efficacious than placebo in the treatment of CIC, though patients receiving active treatment reported a significantly higher rate of adverse events, particularly GI symptoms, and this may limit tolerability.

Competing interests None.

Keywords chronic idiopathic constipation, lubiprostone.