Domperidone: a review of its use in diabetic gastropathy

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Authors' objectives
To assess the efficacy of domperidone in patients with Type I diabetes mellitus and symptoms of gastropathy.

Searching
The authors searched AdisBase (using search terms 'domperidone', 'gastrokinetics', diabetes mellitus', 'diabetic complications', and 'gastroparesis'), MEDLINE and EMBASE (using search terms 'domperidone', 'diabetes', 'gastroparesis or stomach-diseases' and 'domperidone-pharmacodynamics and -pharmacokinetics) through July 17, 1998. Bibliographical information, including contributory unpublished data was also requested from the company developing the drug. Additional references were identified from the reference lists of published articles.

Study selection
Study designs of evaluations included in the review
Large, well-controlled trials with appropriate statistical methodology, where the patients received domperidone as the active treatment.

Specific interventions included in the review
Oral domperidone (10-20 mg, 20 mg, four times daily), cisapride (10 mg four times daily), metoclopramide (10 mg four times daily) and placebo. Intravenous domperidone was excluded from the review.

Participants included in the review
Patients with Type I diabetes mellitus and symptoms of gastropathy. Patient characteristics were not reported.

Outcomes assessed in the review
Symptomatic improvement (e.g. anorexia, early satiety, nausea, vomiting, abdominal distension/bloatedness and abdominal pain) was the primary outcome assessed and was measured by the reduction in total symptom score, reduction in intensity and frequency scores of symptoms, change in symptom score on a visual analogue scale, or physician- and/or patient-rated global evaluation.

Other assessed outcomes were hospitalisation rate and improvement of quality of life which was measured using the physical and mental component summary scores of the Medical Outcomes 36-item Short Form Health Survey (SF-36), compared with pre-treatment values.

How were decisions on the relevance of primary studies made?
The authors included studies based mainly on an evaluation of the methods section of the individual trials.

Assessment of study quality
The authors do not state that they assessed quality.

Data extraction
The authors do not state how the data were extracted for the review, or how many of the authors performed the data extraction.

Methods of synthesis
How were the studies combined?
The studies were combined in a narrative review of three subgroups: short-term trials, long-term trials and trials in...
which patients with symptomatic gastropathy refractory to other agents, for the reduction in symptoms outcome measure. There was no statistical combining of the study data.

How were differences between studies investigated?
The authors do not state how differences between the studies were investigated.

Results of the review
There were 8 comparisons (from 5 trials) of domperidone versus placebo, with 720 patients enrolled and 697 evaluated. There were 2 trials of domperidone version other gastroprokinetic agents (cisapride and metoclopramide) with 103 patients enrolled and evaluated. The length of follow-up ranged from 4-12 weeks.

In the short-term trials (4 trials) 66 to 88% of patients responded (good or excellent improvement in global assessment of symptoms or significant reduction in total symptom score).

In the long-term trials, domperidone 80 mg/day administered for an average of 1.73 years (range 0.3 to 8 years) improved symptoms of gastropathy in 63 of 66 patients (95%) with type I diabetes mellitus (patient-rated symptom response was excellent in 33, good in 25, and fair in 5 patients).

The results of small, non-blind trials suggest that domperidone may also be effective in patients with symptomatic gastropathy unresponsive to other prokinetic and antiemetic agents.

Quality of life outcome measures showed a statistically significant difference in physical component summary scores between domperidone and placebo recipients (+0.65 versus -1.77, p less than or equal to 0.05).

Domperidone 40 to 120 mg/day for up to 8 years significantly decreased the hospital admission rate from pre-treatment values in patients with gastropathy in 3 trials.

The most common adverse events appear to be related to prolactin secretion. The tolerability of domperidone 80 mg/day was similar to that of placebo in a 4-week, randomised, double-blind trial in 208 patients with type I diabetes mellitus and gastropathy.

Authors’ conclusions
Domperidone 40 to 80 mg/day appears to be an effective and well-tolerated agent for the management of symptoms of gastropathy in patients with type I diabetes mellitus. It is at least as well tolerated as other treatment options. Symptoms of gastropathy which are refractory to other gastrokinetic agents may respond to domperidone and symptomatic relief is sustained over extended periods.

CRD commentary
The authors have stated their research question and their criteria for inclusion and exclusion of studies. The literature search was comprehensive and it is likely that all relevant studies were found. The authors do not report who selected the articles for inclusion, and there is no quality assessment of the included studies. Individual studies are not reported in detail in the review, but the results of studies are discussed in summary format in the text.

The combining of the data was appropriate but there is no test or discussion of heterogeneity between the included studies or between the types of interventions (domperidone versus other gastrokinetic agents). The results of the review follow from the data presented, but there are methodological drawbacks due to the lack of transparency and details about the process of the review.

Implications of the review for practice and research
The authors did not state any implications for further research and practice.
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This is a critical abstract of a systematic review that meets the criteria for inclusion on DARE. Each critical abstract contains a brief summary of the review methods, results and conclusions followed by a detailed critical assessment on the reliability of the review and the conclusions drawn.