

## **MOSAPRIDE CITRATE, A NOVEL 5-HT<sub>4</sub> AGONIST AND PARTIAL 5-HT<sub>3</sub> ANTAGONIST, AMELIORATES CONSTIPATION IN PARKINSONIAN PATIENTS**

### **Hypothesis / aims of study**

Mosapride citrate is a novel 5-HT<sub>4</sub> receptor agonist and partial 5-HT<sub>3</sub> antagonist [1]. It facilitates acetylcholine release from the enteric cholinergic neurones. In contrast to cisapride, mosapride does not block K<sup>+</sup>-channels (cardiac toxicity) or D<sub>2</sub> dopaminergic receptors (extrapyramidal dysfunction) [2]. It has been used in delayed gastric emptying due to diabetes [3], gastro-oesophageal reflux disease [4] and functional dyspepsia [5].

### **Study design, materials and methods**

We performed an open trial of mosapride citrate (15 mg/day, 3 months) on constipation in our 14 parkinsonian patients (Parkinson's disease, 7, multiple system atrophy, 7; 10 men, 4 women; mean age, 67 years [55-77]; mean duration of disease, 4 years [1-8]) with objective parameters given by colonic transit time (CTT) and rectoanal videomanometry.

### **Results**

Mosapride was well tolerated by all patients except one, who stopped taking the drug because of epigastric discomfort. None had worsening of parkinsonism or other adverse events. All 13 patients reported subjective improvements in bowel frequency and defecation. Mosapride shortened CTT of the left colon (38.8 to 23.5 hours,  $p < 0.01$ ) and the total colon (107.3 to 74.5 hours,  $p < 0.05$ ). During rectal filling, mosapride lessened the first sensation ( $p < 0.05$ ), maximum rectal capacity and the rectal compliance and augmented the amplitude in phasic rectal contraction (not statistically significant). During defecation, mosapride augmented the amplitude in rectal contraction (0.0 to 3.4 cmH<sub>2</sub>O,  $p < 0.05$ ). The amplitude in paradoxical sphincter contraction on defecation (PSD) and abdominal strain, and the volume of post-defecation residuals decreased (not statistically significant).

### **Concluding message**

The baseline abnormalities in our parkinsonian patients were in accordance with those in the previous reports [6,7,8]. The present study showed for the first time that mosapride citrate ameliorated constipation in parkinsonian patients without serious adverse effects, which is brought about by augmenting the lower gastrointestinal motility as shown in the CTT and videomanometry.

### **References**

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Figures

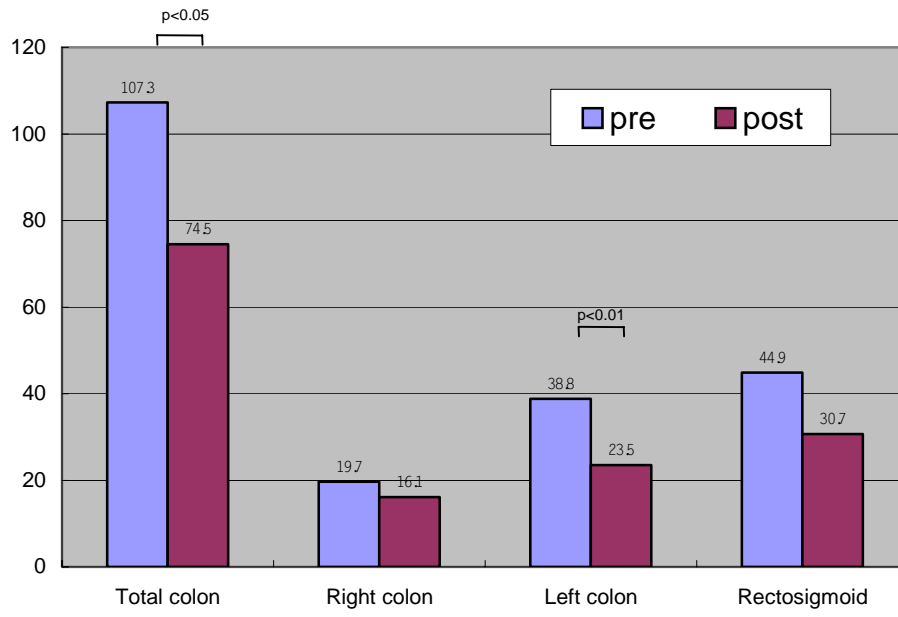


Fig. 1 Colonic transit time (hours).

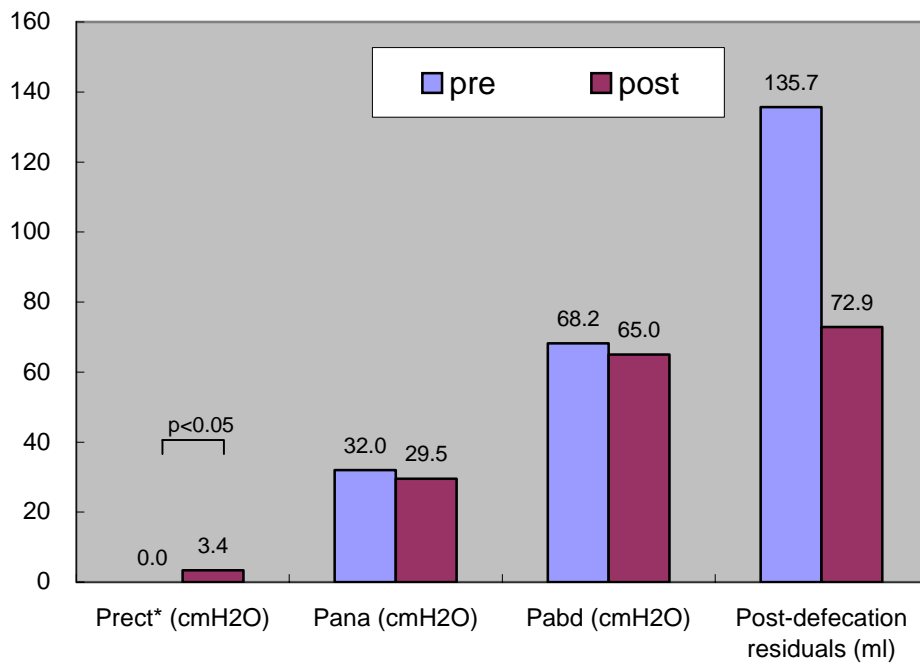


Fig. 2 Anorectal videomanometry..