

中文題目：L-薄荷醇(L-menthol) 與安慰劑對有 Buscopan 禁忌症之年長患者接受上消化道內視鏡檢查時之抗蠕動效果與安全性--前瞻性，隨機，雙盲試驗

英文題目：Antiperistaltic effect and safety of L-menthol and placebo during upper GI endoscopy in elderly patient with contraindication to Buscopan: prospective, randomized, double-blind study

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Background: Hyoscine-N-Butylbromide (Buscopan) is the most commonly used medication for anti-peristalsis during upper GI endoscopy. But almost 50% elderly may have contraindication to Buscopan. Survey of alternative medication is needed. L-menthol is a potential drug to inhibit gastric peristalsis but the effectiveness and safety of this drug in elderly patient is still unknown. The aim of this study is to compare the anti-peristaltic effect and safety between L-menthol and placebo in elderly patients who receive upper GI endoscopy.

Method: This is a randomized, double-blind, controlled study. From March 2012 to March 2015, elderly (>65 year-old) who received non-sedative upper GI endoscopy for GI tract disease (eg. Dysplasia, abdominal pain or anemia) was screened. Questionnaire was used to survey the contraindication of Buscopan after gathering informed consent. The patients with contraindication of Buscopan were enrolled and randomized into this study. The L-menthol and placebo medication was locally sprayed to the gastric antrum during endoscopy. The primary outcome was peristaltic grade between two groups and the secondary outcome

was adverse events, hemodynamic change, difficulty grade of performing endoscopy and satisfactory of patients between two groups.

Results: All 82 patients who signed informed consent completed the questionnaire. 52 (63.4%) of them with contraindication of Buscopan were randomized into L-menthol group (n=26) and placebo group (n=26). The primary outcomes showed much improved peristaltic grade ($p < 0.001$) and easier endoscopy performing ($p < 0.001$) in L-menthol group than in placebo group. The onset and maintenance of anti-peristalsis in L-menthol group was about 20 seconds and over 10 minutes. The L-menthol didn't increase cardiovascular stress during procedure than placebo group, like hemodynamic change and saturation change. The adverse events were also similar between two groups. Others, the endoscopic findings and VAS score of patients were no difference.

Conclusion: L-menthol is a safe and effective alternative medication to inhibit peristalsis in elderly patients who has contraindication to Buscopan undergoes upper GI endoscopy. A large, randomized trial is required to clarify whether the L-menthol can lead to better detection yield in these patients.