11. Gastrointestinal, Hepato-Biliary-Pancreatic Diseases

Reference

Satoh Y, Itoh H, Takeyama M. Effects of bakumondoto on neuropeptide levels in human saliva and plasma. *Journal of Traditional Medicines* 2009; 26: 122–30. Ichushi Web ID: 2010089062, J-STAGE

1. Objectives

To evaluate the effects of bakumondoto (麦門冬湯) on neuropeptide levels in human plasma and saliva.

2. Design

Randomized cross-over controlled trial (RCT-cross over).

3. Setting

Oita University Hospital, Japan.

4. Participants

Five non-smoking males, aged 25–30 years.

5. Intervention

Since allocation to these treatment arms is not described, the treatment arms are described in terms of treatment regimen. The washout period for each drug was four weeks.
Arm 1: a single administration of TSUMURA Bakumondoto (麦門冬湯) Extract Granules 18 g.
Arm 2: placebo (lactose + maltose).
Each subject was administered these drugs with an interval of four weeks.

6. Main outcome measures

Substance P, vasoactive intestinal polypeptide (VIP), somatostatin, and calcitonin-gene related peptide (CGRP) levels in plasma and saliva.

7. Main results

Treatment in arm 1 significantly increased saliva levels of substance P level at 40 min after administration of bakumondoto (mean±SD of 37.8±14.7 pg/mL *vs* 23.5±10.2 pg/mL in arm 2; P=0.0317) and CGRP at 90 min after administration (65.5±34.4 pg/mL *vs* 24.8±4.5 pg/mL in arm 2; P=0.0079), but not VIP, which remained unchanged. Treatment in arm 1 also significantly increased plasma levels of substance P at 90 min after administration (34.1±14.0 pg/mL *vs* 23.3±2.8 pg/mL in arm 2; P=0.0127), but not of CGRP and VIP. Saliva volume was increased by 37%, 26%, and 33% at 20, 40, and 60 min in arm 1, but not in arm 2. Saliva secretion was correlated with saliva level of substance P (r=0.66).

8. Conclusions

Bakumondoto increases substance P and CGRP levels in human saliva. An increase in saliva secretion by bakumondoto is partially attributable to increases in these neuropeptides.

9. From Kampo medicine perspective

None.

10. Safety assessment in the article

Not mentioned.

11. Abstractor's comments

This study is interesting because it evaluates the increases in substance P and CGRP secretion as a contributor to the stimulatory effect of bakumondoto on salivary secretion in a cross-over study. Considering the results of this study, which implicate neuropeptides in the mechanism of action of bakumondoto, and the reported involvement of substance P in the effect of hangekobokuto (半夏厚朴湯) on improvement of swallowing disorder, further elucidation of the pharmacological action of bakumondoto is awaited.

12. Abstractor and date

Okabe T, 27 December 2010, 31 December 2013.