

2. Cancer (Condition after Cancer Surgery and Unspecified Adverse Drug Reactions of Anti-cancer Drugs)**11. Gastrointestinal, Hepato-Biliary-Pancreatic Diseases****Reference**

Moriyama S, Hinode D, Yoshioka M, et al. Impact of the use of Kampo medicine in patients with esophageal cancer during chemotherapy: a clinical trial for oral hygiene and oral condition. *Journal of medical investigation* 2018; 65: 184-90. CENTRAL ID: CN-01702631, Pubmed ID: 30282858, UMIN ID: UMIN000013183 [J-STAGE](#)

1. Objectives

To investigate the impact of daiokanzoto (大黄甘草湯) and hangeshashinto (半夏瀉心湯) on oral mucositis, tongue coating bacteria, and gingiva condition in patients with esophageal cancer undergoing chemotherapy.

2. Design

Randomized controlled trial using sealed envelopes for allocation (RCT-envelope).

3. Setting

One university hospital, Japan.

4. Participants

Twenty-four esophageal cancer patients aged 52 to 81 years started on chemotherapy between June 2012 and July 2015 and given professional oral healthcare. Patients were excluded if they had severe infection, severe complications, or drug allergy.

5. Intervention

Arm 1: Sherbet containing TSUMURA Daiokanzoto (大黄甘草湯) Extract Granules 2.5 g t.i.d. (between meals) during the chemotherapy (n=7).

Arm 2: Sherbet containing TSUMURA Hangeshashinto (半夏瀉心湯) Extract Granules 2.5 g t.i.d. (between meals) during the chemotherapy (n=7).

Arm 3: Control (no administration of Kampo medicine) (n=10).

6. Main outcome measures

The primary endpoint was oral mucositis evaluated by the National Cancer Institute Common Terminology Criteria for Adverse Events (NCI-CTCAE) Version 4. The secondary endpoints were oral cavity condition and tongue coating bacteria. The oral cavity condition was evaluated using the salivary flow rate, plaque index (PII), gingival index (GI), and tongue coating index (TCI). The tongue coating bacteria were quantified by counting *Porphyromonas gingivalis*, *Fusobacterium nucleatum*, and *Campylobacter rectus* CFUs.

7. Main results

One patient in the control group was excluded because of onset of aspiration pneumonia before first evaluation, and the analysis was conducted on 23 patients (7 patients in the daiokanzoto group, 7 patients in the hangeshashinto group, and 9 patients in the control group). Oral mucositis onset and severity did not significantly differ across the Arms. Among other parameters of the oral cavity condition, the salivary flow rate did not significantly differ across the three Arms. The GI for Arm 1 was significantly better than that for Arm 3 ($P=0.04$). The endpoint results were better in Arm 2 than in Arm 3. The bacterial counts of *F. nucleatum* and *C. rectus* were lower in Arm 1 than in Arm 3 ($P=0.02$ for both). Between Arm 2 and Arm 3, no significant differences were observed in bacterial counts.

8. Conclusions

Neither daiokanzoto nor hangeshashinto improves oral mucositis in esophageal cancer patients on chemotherapy receiving oral care. Daiokanzoto may attenuate gingival inflammation and reduce the numbers of periodontopathogenic bacteria, and thus may improve oral health of patients on chemotherapy for esophageal cancer.

9. From Kampo medicine perspective

None.

10. Safety assessment in the article

Not stated.

11. Abstractor's comments

This is a meaningful study that evaluated whether oral mucositis, a common adverse effect of chemotherapy, improves with daiokanzoto or hangeshashinto. The sample size of this study may have been too small to detect any effect of the Kampo intervention added to professional oral care. Future reports with more patients are awaited.

12. Abstractor and date

Koike H, 22 October 2019.