

2. Cancer (Condition after Cancer Surgery and Unspecified Adverse Drug Reactions of Anti-cancer Drugs)**Reference**

Katsuno H, Maeda K, Ohya M, et al. Clinical pharmacology of daikenchuto assessed by transit analysis using radiopaque markers in patients with colon cancer undergoing open surgery: a multicenter double-blind randomized placebo-controlled study (JFMC39-0902 additional study). *Journal of Gastroenterology* 2016; 51: 222-9.

1. Objectives

To verify the effects of daikenchuto (大建中湯) for gastrointestinal function recovery after laparotomy in patients with sigmoid colon cancer or rectosigmoid cancer.

2. Design

Double-blind, randomized controlled trial (DB-RCT).

3. Setting

Multiple centers (11 centers), Japan.

4. Participants

Eighty-four patients with sigmoid colon cancer or rectosigmoid cancer who underwent laparotomy (colon resection).

5. Intervention

Arm 1: TSUMURA Daikenchuto (大建中湯) Extract Granules 15.0g/day (5.0g t.i.d. before meals) taken orally from day 2 to day 8 after surgery (n=44)

Arm 2: Placebo (TSUMURA & Co.) taken orally for the same period as above (n=40).

6. Main outcome measures

Primary endpoints: Time to first flatus and intestinal transit time using radiopaque markers.

7. Main results

There were 13 dropouts: 71 patients (38 in arm 1, 33 in arm 2) were analyzed. For the primary endpoints, the numbers of the radiopaque markers on the anal side of the small intestine at 6 hours (in other words, transit time from stomach to small intestine) were significantly higher in the daikenchuto group than the placebo group (i.e. shorter) (15.19 vs. 10.06, $P=0.008$), but total intestinal tract transit times and mean times to first flatus showed no significant difference between the groups.

8. Conclusion

Daikenchuto shortens transit time from stomach to small intestine in sigmoid colon cancer or rectosigmoid cancer who have undergone laparotomy (colon resection), but its improvement of postsurgical paralytic ileus is limited.

9. From Kampo medicine perspective

None.

10. Safety assessment in the article

All cases were evaluated for adverse events using NCI-CTC-AE (ver. 3.0), grade 3 diarrhea was observed in 2 participants in the placebo group, but no significant difference between groups was found.

11. Abstractor's comments

This is a valuable placebo controlled, double-blind RCT that analyzed the effects of daikenchuto in promoting recovery of intestinal tract function after surgery and in promoting gastrointestinal motility using radiopaque markers. The paper is praiseworthy for having made use of the characteristics of radiopaque markers to analyze gastrointestinal transit time from stomach to rectum by part. However, there was an unexpected significant difference in clearance from stomach to small intestine, while no significant difference was found in subsequent transit times from the small to large intestine. Until now daikenchuto has been reported to have an effect mainly on the small and large intestines. The authors also mention in their subgroup analyses that daikenchuto shortened transit time to sigmoid colon to 72 hours in the 65-years and younger group. This would mean that the younger the patient, the faster the recovery of intestinal function. There are a number of papers reporting that daikenchuto significantly shortened time to first flatus after open hepatectomy, laparoscopic large intestine surgery, and open colon resection, however, they did not use radiopaque markers as in this study. Given the results of this study that there was no significant difference in time until first flatus or in overall intestinal tract transit time, and that clearance from stomach to small intestine was promoted, without finding that postsurgical paralytic ileus was prevented, the authors' conclusion that commencement of food intake by mouth would be hastened is valid.

12. Abstractor and date

Motoo Y, 11 January 2017.