## 21. Others

**Reference**

Endo Y, Ishihara Y, Tsuno S, Matsuda A, et al. Pharmacokinetic Interaction Study of Ranitidine and Daijokito in Healthy Volunteers. *Yonago Acta Medica* 2016; 59: 111-7. CENTRAL ID: CN-01178387, PubMed ID: 27493481

**1. Objectives**

To verify the effect of daijokito (大承気湯) on the pharmacokinetics of ranitidine.

**2. Design**

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

**3. Setting**

Not mentioned. (The author belongs to a university drug therapy department.)

**4. Participants**

Seven healthy males.

**5. Intervention**

Arm 1: Ranitidine (300mg) taken after fasting, then after at least 5 days, ranitidine (300mg) and TSUMURA Daijokito (大承気湯) Extract Granules (2.5g) taken after fasting (n=4).

Arm 2: Ranitidine (300mg) and TSUMURA Daijokito (大承気湯) Extract Granules (2.5g) taken after fasting, then after at least 5 days, ranitidine (300mg) taken after fasting (n=3).

**6. Main outcome measures**

Changes in ranitidine blood concentration over time, up to 12 hours after administration.

**7. Main results**

The area under the plasma concentration-time curve (AUC) and the maximum plasma concentration ($C_{max}$) up to 12 hours after ranitidine administration were significantly lower when daijokito was taken compared to when daijokito was not taken.

**8. Conclusions**

Daijokito lowers ranitidine blood concentration.

**9. From Kampo medicine perspective**

None.

**10. Safety assessment in the article**

No clinically significant adverse reaction was observed in blood tests, vital signs, or physical findings.

**11. Abstractor's comments**

There have been few findings on the interactions of Kampo and Western medications and there is little awareness in clinical practice of the effects of Kampo medications on Western medications, and vice versa. Against that background, the results indicated by this research are important. While the reduction in plasma drug concentration is not directly connected to the reduction in clinical effect, practitioners must be aware of the possibility that when a Kampo medication is administered the blood concentration of an important therapeutic drug might not reach the clinically required concentration and thereby might have no effect. Similar studies of frequently used Kampo preparations other than daijokito are desirable. In current clinical practice, very large numbers of patients are being administered multiple drugs, not only Kampo medications, whose blood concentrations are difficult to infer: this is a problem. The results of this research point to the constant need in clinical practice to curb the numbers and types of Kampo and Western medications used to the minimum required, and to vigilantly assess whether the anticipated effects are being achieved or not.

**12. Abstractor and date**

Koike H, 18 May 2020.