

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

Yamamoto K, Hirano F, Ikoma N, et al. Efficacy of keishibukuryogan for hysteromyoma/uterine adenomyosis\*. *Sanfujinka Kampo Kenkyu no Ayumi (Recent Progress of Kampo Medicine in Obstetrics and Gynecology)* 2003; 20: 135-7 (in Japanese). Ichushi Web ID: 2004068783

**1. Objectives**

To evaluate the anti-tumor effect of keishibukuryogan (桂枝茯苓丸) in patients with hysteromyoma/uterine adenomyosis.

**2. Design**

Randomized controlled trial (RCT).

**3. Setting**

Single hospital (Department of Obstetrics and Gynecology, Sakai Hospital, Kinki University School of Medicine), Japan.

**4. Participants**

The 24 patients seen at the above institution and diagnosed with hysteromyoma or uterine adenomyosis were randomized into two arms: 1) the gonadotropin-releasing hormone (GnRH) analogue + keishibukuryogan arm (mean age, 45.9 years; mean tumor diameter, 35.7 mm) and 2) the GnRH analogue arm (mean age, 46.3 years; mean tumor diameter, 34.1 mm).

**5. Intervention**

Arm 1: subcutaneous injection of a GnRH analogue (1.88 mg) once monthly for 4 consecutive months + oral administration of a sachet of TSUMURA Keishibukuryogan (桂枝茯苓丸) Extract Granules (2.5 g) t.i.d (before meals) for 12 months (n=14).

Arm 2: subcutaneous injection of a GnRH analogue (1.88 mg) once monthly for 4 consecutive months (n=10).

**6. Main outcome measures**

Tumor response was evaluated on a 3-point scale: tumor diameter reduction: remarkably effective,  $\geq 50\%$ ; effective,  $>0 - 50\%$ ; not effective,  $0\%$ . Evaluation was performed at baseline, 4, 8, and 12 months after intervention.

**7. Main results**

Four months after treatment, complete response was achieved in 42.9% (6/14) of arm 1 and 10% (1/10) of arm 2, showing that GnRH + keishibukuryogan tended to have a higher anti-tumor effect although there were no between-group differences in tumor size reduction 8 or 12 months after treatment. Analysis limited to hysteromyoma revealed that 4-month treatment produced complete response in a significantly higher percentage of arm 1 (50%) than arm 2 (0%) ( $P=0.012$ ). When the analysis was limited to the GnRH analogue leuprorelin, 4-month treatment produced a significantly higher complete response rate in arm 1 (62.5%) than in arm 2 (0%) ( $P=0.016$ ). GnRH + keishibukuryogan exerted clinical efficacy in the short-term but not in the long-term (8 or 12 months after treatment).

**8. Conclusion**

Keishibukuryogan increases the efficacy of standard GnRH therapy for tumor size reduction in 4-month, short-term treatment.

**9. From Kampo medicine perspective**

None.

**10. Safety assessment in the article**

None.

**11. Abstractor's comments**

As the contents of this paper have also been described in several previous case reports and clinical studies, the present study provided additional supportive evidence. Nevertheless, the present results are not sufficient to conclude that the effect can be generalized beyond the study sample because of the small sample size, but it will serve as a helpful reference in determining the future direction of research. Although the measure of tumor response (use of a 3-point scale) was rather crude, further accumulation of cases may enable more reliable determination — for clinical practice — of mean tumor reduction and differences in tumor reduction with time after administration.

**12. Abstractor and date**

Ushiroyama T, 1 April 2008, 1 June 2010, 31 December 2013.