

## Abstract

### Background

The Pharmaceuticals and Medical Devices Agency alerted healthcare providers that long-term intake of herbal medicines containing gardenia fruit (GF) were linked to the risk of developing mesenteric phlebosclerosis (MP). However, the etiology was unknown.

### Aim

To was to systematically summarize case reports to identify the relationship between MP and herbal medicine intake and to identify characteristics of patients with MP.

### Method

Following the PRISMA guideline, the case reports were collected from MEDLINE, EMBASE, Ichushi, CINAHL and the Index of Chiropractic Literature. The search was conducted August 16 to September 4, 2020. Case reports were eligible for inclusion if patients were diagnosed with MP and had a history of ingesting herbal (Kampo) medicines containing GF. Study quality was assessed using the Joanna Briggs Institute Critical Appraisal for Case Report.

### Results

I assessed 20 cases with data from 22 Japanese patients. The mean age was 61 years (range: 31-87 years) and 19 (86%) were female. The duration of intake of herbal medicine containing GF was 2 to 40 years (mean: 14 years). The most frequently used herbal medicine was Kamishoyosan. Their symptoms before diagnosis of MP were abdominal pain (12/35, 34%), positive fecal occult blood test (4/35, 11%), vomiting (4/35, 11%); however some patients were asymptomatic (3/35, 8.6%).

### Conclusion

Long-term intake especially for two years or more of herbal medicines have a risk of MP.

Patients who take herbal medicines containing GF should have their subjective symptoms such as abdominal pain evaluated through tomography or endoscopy.

*Keywords:* mesenteric phlebosclerosis, herbal medicines, medicine kampo, gardenia fruit