13. Diseases of the Musculoskeletal System and Connective Tissue

**Reference**

1. **Objectives**
To verify the clinical efficacy of porcine placental extract on shoulder stiffness in postmenopausal women taking hormone replacement therapy.

2. **Design**
Randomized controlled trial (RCT).

3. **Setting**
Kanazawa University Hospital and Sugita Clinic (2 institutions), Japan.

4. **Participants**
Fifty-four postmenopausal women with shoulder stiffness taking hormone replacement therapy.

5. **Intervention**
Arm 1: Hormone replacement therapy (product unknown) for 3 months, followed by hormone replacement therapy + 3 capsules/day of porcine placenta extract (350 mg/capsule) p.o. for 12 weeks (n=27).
Arm 2: Hormone replacement therapy (product unknown) for 3 months, followed by hormone replacement therapy + TSUMURA Tokishakuyakusan (当帰芍薬散) Extract Granules p.o. for 12 weeks (n=27).

6. **Main outcome measures**
Degree of shoulder stiffness on a visual analogue scale (VAS).

7. **Main results**
Four of 54 patients were withdrawn. The VAS score was significantly lower (at the end of the study: 64.8% reduction from baseline, P<0.01) in arm 1 than in arm 2.

8. **Conclusions**
In postmenopausal women taking hormone replacement therapy, oral administration of porcine placenta extract is effective in improving prolonged or treatment-refractory shoulder stiffness.

9. **From Kampo medicine perspective**
None.

10. **Safety assessment in the article**
During the study period, administration of porcine placenta extract did not affect serum chemistry values, BMI, cardiovascular function, estradiol levels, or thyroid hormone levels, and did not cause abnormal uterine bleeding.

11. **Abstractor’s comments**
Placenta extract is currently used as a supplement and advertised as a product effective in relieving menopausal symptoms. The present study evaluated the clinical efficacy of porcine placenta extract, focusing on shoulder stiffness that is prolonged or refractory to treatment in climacteric women taking hormone replacement therapy. It deserves some appreciation. Placenta extract contains many bioactive substances, of which low molecular weight peptides, etc., are thought to enter the systemic circulation from the gastrointestinal tract and exert effects in target organs. Although the mechanism of action of porcine placenta extract remains unknown, its effectiveness in improving shoulder stiffness refractory to hormone replacement therapy suggests a mechanism that is not mediated by estrogen receptors. Prior treatment with tokishakuyakusan may also affect the results. It is hoped that the authors will also investigate the relationship and differences between biologics and Kampo.

12. **Abstractor and date**
Ushiroyama T, June 2015, 5 October 2015.