Increased Body Weight as a Risk Factor of Intertrochanteric Fracture Severity in Elderly Women

Hyung-Min Ji, MD; Jun Han, MD; Ye-Yeon Won, MD
Department of Orthopaedic Surgery, Ajou University School of Medicine

INTRODUCTION

Intertrochanteric fracture
- Grave morbidity and mortality
- One of the leading causes of significant morbidity and disability in old patients

Unstable intertrochanteric fracture
- Higher failure rate of osteosynthesis
- Growing consensus: A need for additional procedure
- Identifying related risk factors is vital for fracture prevention
- Understanding fracture mechanism
- Public health policy

Risk factor for Unstable ITF
- Lower BMI and Higher Body Weight: Unstable ITF, 2009 Cauley et al. JBMJ
- Lower vit D, more severe form, 2012 Larrosa et al. Osteoporos int
- No clear association b/w BMD and Fracture severity, 2014 Spencer et al. Orthopedics

RESULTS

Univariate logistic regression analysis for:
- Each AO 1.1 to 3.3 type
- For unstable fracture
- For each type 1, 2, 3
- For 2.2x2.3

Multivariate regression analysis with factors (p < 0.20)
- Each AO 1.1 to 3.3 type
- For unstable fracture
- For each type 1, 2, 3
- For 2.2x2.3

DISCUSSION

Previous study
- Lower BMI and Higher Body Weight: Unstable ITF, 2009 Cauley et al. JBMJ
- Lower vit D, more severe form, 2012 Larrosa et al. Osteoporos int
- No clear association b/w BMD and Fracture severity, 2014 Spencer et al. Orthopedics

Current study
- Increased body weight as a risk factor of intertrochanteric fracture
- As well as old age
- Not BMI after multivariate regression
- Higher BMD, higher body weight: higher fracture energy generation

Clinical relevance
- Orthopedics: special concern for these patients
- Nutritional, endocrinologic: special concern for women with weight
- Public health policy: special interest needed
- Issues for AO/OTA classification

Limitation
- Growing interest in sarcopenia and dynapenia: no related factor including muscle volume, weight and vitamin D level
- Biochemical marker: not relevant in previous study
- Only elderly women: ordinary clinical situation
- No relevant risk factor for type 3 fracture
- No BMI relevance, BMD relevance

REFERENCES