



# Mammographic Density and Metabolic Syndrome in Climacteric Women

Natthapong Kankoon<sup>1</sup>, Woraluk Somboonporn<sup>1\*</sup>, Jiraporn Srinakarin<sup>2</sup>, Sukree Soontrapa<sup>1</sup> MD1, Srinaree Kaewrudee<sup>1</sup>  
Department of <sup>1</sup>Obstetrics and Gynecology, <sup>2</sup>Radiology, Faculty of Medicine,  
Khon Kaen University, Khon Kaen

\* Corresponding author, Email: wsomboonporn@yahoo.com

## Oral

**Background and objective :** The metabolic syndrome is associated with an increased risk of breast cancer. However, there has been limited data regarding the risk in Asian countries. This study aims to evaluate whether the metabolic syndrome is associated with an increase in percent mammographic density, which is a breast cancer risk.

**Methods:** A study design is cross-sectional analytical study. A total of 761 climacteric women of ages between 40-70 years were included in our study. We performed general physical examination, blood test and mammogram for all women. These women were then classified according to AHA/NHLBI into two groups; such as having metabolic syndrome and no metabolic syndrome. A skilled radiologist read and categorized mammographic density of every included woman into four groups; 1-25%, 26-50%, 51-60%, and 61-100%. We used ordinary logistic regression and mixed model to examine the associations of metabolic syndrome and components of metabolic syndrome to percent mammographic density.

**Results:** The prevalence of metabolic syndrome in our study was 17.9%. The most common ranges of mammographic density in climacteric women with and without metabolic syndrome were 0-25% and 76-100%, respectively. When adjusting for body mass index, we found the inverse association between metabolic syndrome and percent mammographic density. In addition, after controlling for body mass index, the inverse associations were also demonstrated between percent mammographic density and every criterion of metabolic syndrome; such as blood pressure, fasting plasma glucose, triglyceride, and HDL-cholesterol.

**Conclusion:** In our study, after controlling for body mass index, metabolic syndrome inversely associated with an increase in percent mammographic density. However, as the percent mammographic density is considered as an intermediate outcome of breast cancer, it is still inconclusive whether metabolic syndrome is a risk factor of breast cancer or not.

**Keywords:** Metabolic syndrome, Percent mammographic density, Climacteric women