

## MR Cardiac Evaluation Of Cardiovascular Disease In Metabolic Syndrome

Noor Badriah O<sup>1,2</sup>, Norzailin AB<sup>2</sup>

*Hospital Universiti Kebangsaan Malaysia<sup>1</sup>,  
Hospital Kuala Lumpur, Malaysia<sup>2</sup>*

**Background:** The major adverse consequence of metabolic syndrome is cardiovascular disease, which often already present without clinical signs or symptoms. Therefore, risk stratification on an individual basis and early detection of cardiovascular disease are essential.

**Methods:** This was a cross sectional study carried out at Department of Radiology, Pusat Perubatan University Kebangsaan Malaysia (PPUKM) using MRI 1.5T. The report, images and patient's demographic details were obtained and the cardiac findings were interpreted by cardiac radiologist.

**Results:** The incidence rate of subclinical myocardial damage among metabolic syndrome in Pusat Perubatan University Kebangsaan Malaysia (PPUKM) by using MRI cardiac as the investigation tool is calculated as 8.7. The association with age, gender and hormonal factor with development of cardiovascular disease are proven in this study. There are evidence of increase pericardial fat thickness, left atrial and left ventricular dilatation in metabolic syndrome patient with duration of diagnosis of the syndrome less than 10 years. There is not enough evidence to support the hypothesis of association between duration of diabetes mellitus and hypertension with incidence of cardiovascular disease in this cohort of metabolic syndrome. Therefore, further study or follow up is needed to find the association between metabolic syndrome risk factor with development of diastolic dysfunction and the outcome of early cardiac intervention.

**Conclusion:** We are not able to prove the significant association by using statistical test due to sample size limitation and cost of the study. Therefore, further study is needed to find the association between metabolic syndrome risk factor with development of cardiovascular disease.

**Keywords:** Metabolic syndrome, cardiovascular disease in metabolic syndrome,