

中文題目:測量皮膚自發性螢光可以預測具有中度至高度心血管疾病患者的腎功能惡化

英文題目:Skin autofluorescence is associated with rapid renal function decline in subjects at increased risk of coronary artery disease

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Background

Skin autofluorescence (AF) has been validated as a tool for estimating tissue advanced glycation end products (AGEs) accumulation and predicting long-term cardiovascular outcomes. However, whether measurements of skin AF could predict renal function decline remains controversial.

Material and methods

From April, 2014 to April, 2015, we enrolled 245 subjects with at least two conventional risk factors for coronary artery disease (CAD). All were measured for body height and weight, blood pressure, plasma creatinine level, and skin AF at the start of the study. Baseline demographics and laboratory tests data were obtained by chart reviews and patient interviews. Serial plasma creatinine levels were followed regularly every 6-12 months for 2 years.

Results

In a stepwise multivariate linear regression analysis, skin AF was an independent factor for predicting the renal function decline rate after adjustment of age, diastolic blood pressure, baseline renal function and antiplatelet treatment ($\beta=-2.48$; $p=0.01$). Receiver operating characteristic curve analysis revealed that skin $AF \geq 2.25$ predicts rapid renal function decline at a sensitivity of 75.5%, and specificity of 52.1%, with the area under the curve of 0.65 (95% confidence interval: 0.57-0.73; $p < 0.01$). Subgroups analysis revealed that skin AF is an independent factor for renal function decline rate in subgroups of age < 65 years, male sex, diabetes mellitus, and estimated glomerular filtration rate > 60 ml/min/1.73m².

Conclusion

Skin AF is a useful predictor for renal function decline in patients at increased risk of CAD. Skin $AF \geq 2.25$ predicts rapid renal function decline.