INVERSE CORRELATION BETWEEN CIRCULATING PROTEIN 53 (p53) LEVELS AND hs-CRP LEVELS IN CENTRAL OBESITY ELDERLY MEN

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INTRODUCTION

In obesity, there is a concept of low-grade chronic inflammation called meta-inflammation. However, along with aging, the concept of low-grade chronic inflammation is known as inflammaging (inflammation and aging). The mechanism of aging goes along with age, one of which is characterized by cellular senescent, which occurs mostly in adipose tissue. Adipose tissue is the site of accumulation of large cell senescent, in regulation of obesity and aging. Proteins 53 (p53) is marker for cell senescent, which are also known to induce inflammation. However the correlation of circulating p53 and hsCRP in central obese men with inflammaging is unknown yet, so the objective of this study was to determine the correlation of circulating p53 as cell senescent marker and hsCRP in central obese men with inflammaging.

METHODS

The study design was an observational study with cross sectional approach. The subjects were 64 men with central obesity (waist circumference > 90 cm), aged ≥ 45 years old, and fulfilled exclusion criteria. Subjects were divided into 2 age groups, those are middle age group: 45-59 years old (50.7%) and elderly group: ≥ 60 years old (49.3%). Serum circulating Protein 53 (p53) were quantified by ELISA principles. Serum hsCRP were quantified by Immulite 2000. All assays were performed according to the manufacture instruction. Statistical analysis was performed with SPSS for windows ver 24. Significance value were define as alpha level< 0.05 based on two-tailed tests.

RESULTS

In this study it was found that the mean waist circumference in elderly was higher in elderly group (103.11 ± 7.72 cm) compared to middle-aged group (102.45 ± 8.18 cm). Fat is redistributed among different fat depots over time, especially during and after middle age, when fat redistributes from subcutaneous to intraabdominal visceral depots.

The mean serum level of hsCRP was significantly higher (p=0.035) in middle-aged group (2.82 ± 1.80 mg/mL), compared to elderly group (2.00 ± 1.40 mg/mL).

But the mean serum level of circulating p53 was higher in elderly group (1.22 ± 2.80 IU/mL), compared to middle-aged group (1.21 ± 3.24 IU/mL), however there was no significant difference.

To see the interaction between circulating p53 and inflammatory variable, Spearman correlation test was performed. The correlation result showed circulating p53 correlated with hsCRP in elderly with r=-0.414 and p=0.011. Meanwhile there was no correlation shown in the middle age group (r=-0.127, p=0.449).

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REFERENCES


CONCLUSION

This study provides new evidence that the correlation between hsCRP and p53 in circulation is inversely correlated, whereas in cells based on previous studies positively correlated.

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