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Interleukin-18, matrix metalloproteinase-22 and -29 are independent risk factors of human coronary heart disease

Keywords: Interleukin-18, MMP-22, MMP-29, coronary heart disease, risk factor

Research Summary

1. Increased plasma and arterial wall IL18 levels in CHD patients may lead to higher plasma and arterial wall expression of MMP-22;

2. Plasma levels of IL18, MMP-22 and MMP-29 were higher in CHD patients than in controls;

3. Plasma IL18, MMP-22 and MMP-29 were independent risk factors of CHD;

4. IL18 and MMP-22 associated with the Gensini score;

5. Plasma IL18 levels associated positively with plasma MMP-22 and MMP-29.

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Innovation points

1. Inflammation is involved in promoting the expression of MMP-22 and possibly MMP-29 during atherogenesis and IL18 is one of those inflammatory regulators of these MMPs in CHD patients;

2. Races and genders may affect the association between IL18 with smoking, diabetes, hypertension, and hyperlipidemia;

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Innovation points

3. (1) As an indirect mechanism, IL18-induced production of IFN-γ and IL6 from macrophages may be used to promote MMP-22 and MMP-29 expression in other vascular and inflammatory cells;

(2) As a direct mechanism, IL18 may act on vascular cells or other inflammatory cells, such as monocytes, NK cells, and even cardiomyocytes to induce their expression of MMP-22 and MMP-29.

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