冠動脈CTAは男性と女性とで異なる心血管リスクを示す（Abstract＃MSVA51-17）

動脈硬化の存在、範囲および組成が心血管リスクにおける男女差を明らかにした

Presence, extent and composition of atherosclerosis reveal gender differences in cardiovascular risk

冠動脈CT造影（CTA）の所見は男女においては異なる心血管リスクを示すとのスタディ結果が2011年Radiological Society of North America学会で発表された。研究者らは急性胸痛を有する患者480人（平均年齢55歳、約65%が女性）の冠動脈CTAの結果を解析した。各々の患者において急性冠症候群の可能性が除外された。冠動脈CTAの結果と12.8ヵ月後の予後データを比較することにより、プラーク沈着の範囲、重症度およびタイプと重大な心イベント発現との相関を示すことができた。経過観察期間中に70人の患者に合計87件の重大な有害心事象が発現した。予後データとCTAの総合的なプラーク所見との関連をみると、プラーク沈着量が多く動脈硬化が広範な女性は男性よりも心血管リスクが有意に大であった。特に、プラークの種類に関わらず広範である場合や狭窄部位が4個を超える場合に、女性において男性よりも重大な心イベントのリスクが有意に高かった。しかし、動脈病変が非石灰化病変の場合には重大な有害心事象は男性の方が多かった。

Full Text

Findings on coronary CT angiography (CTA) show different cardiovascular risks for men and women, according to a study presented at the 2011 annual meeting of the Radiological Society of North America.

Researchers at the Medical University of South Carolina analyzed the results of coronary CTA on 480 patients, mean age 55, with acute chest pain. Approximately 65 percent of the patients were women, and 35 percent were men. The possibility of acute coronary syndrome was ruled out for each of the patients.

Using coronary CTA, the researchers were able to determine the number of vessel segments with plaque, the severity of the blockage and the composition of the plaque.

"The latest CT scanners are able to produce images that allow us to determine whether the plaque is calcified, non-calcified or mixed," said John W. Nance Jr., M.D., currently a radiology resident at Johns Hopkins Hospital in Baltimore, Md.

By comparing the coronary CTA results with outcome data over a 12.8-month follow-up period, the researchers were able to correlate the extent, severity and type of plaque build-up with the occurrence of major adverse cardiac events, such as a myocardial infarction or coronary bypass surgery. The statistical analysis tested all plaques combined (calcified, non-calcified and mixed) and each individual plaque type separately.

"We found that the risks for cardiovascular events associated with plaque were significantly different between women and men," Dr. Nance said.

Within the follow-up period, 70 of the patients experienced major adverse cardiac events, such as death, heart attack, unstable angina or revascularization. In total, 87 major adverse cardiac events occurred among the patients during the follow-up period.

When the outcome data were correlated with the CTA combined plaque findings, the results indicated that women with a large amount of plaque build-up and extensive atherosclerosis are at significantly greater cardiovascular risk than men.

Specifically, the risk for major adverse cardiac events was significantly higher in women than in men when extensive plaque of any kind was present or when more than four artery segments were narrowed.

"This research tells us that extensive coronary plaque is more worrisome in women than the equivalent amount in men," Dr. Nance said.

However, when analyzing risk factors associated with the presence of individual types of plaque, the risk for major adverse cardiac events was greater in men, compared to women, when their artery segments contained non-calcified plaque.

Dr. Nance said the new data suggested that the atherosclerotic process is not necessarily linear and that more research is needed to better understand the disease.

"Our research confirms that coronary CTA provides excellent prognostic information that helps identify risk, but there are gender differences that need to be considered," Dr. Nance said.

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