

閉塞血管については、百聞は一見に如かず

自身の冠動脈石灰化を実際に見た患者はスタチン療法や減量プログラムへのアドヒアランスが良好である

Better adherence to statin therapy and weight loss programs in patients who actually view their coronary artery calcification

血管壁内へのカルシウム沈着を単に見ることで患者はスタチン療法および減量勧告の遵守に駆り立てられるようであるとの研究結果が第61回American College of Cardiology学会で発表された。2つの関連したスタディにおいて、心臓コンピュータ断層撮影を用いた冠動脈石灰化(CAC)スコアリングを施行された患者が自身の動脈画像を見せられた。疾患が最も重症で自分の心臓画像を見た患者は、検査を受けた結果疾患が軽度またはなかった患者と比較し、スタチンを指示通り内服する確率が2.5倍高く減量する確率が3倍以上高かった。スタチン調査(患者2,100人)の結果、CACスコアが0の者ではコンプライアンスが最も低く(36%)、CACスコアが上昇するとともに上昇した(1~99, 51.8%; 100~399, 56.5%; >400, 59.1%; 傾向分析に $p<0.001$)。減量調査(患者518人)に関しても同様の傾向が認められ、冠動脈石灰化所見のない者では20%しか減量しなかったのに対し最も重症の者(CAC>400)においては40%減量した。

Full Text

It seems a picture is worth more than a thousand words for people who see evidence of coronary artery disease. Simply seeing a build-up of calcium in the walls of the arteries appears to prompt patients to better adhere to both statin therapy and recommendations for weight loss, according to research presented at the American College of Cardiology's 61st Annual Scientific Session.

In two related studies, patients undergoing coronary artery calcium (CAC) scoring with cardiac computed tomography were shown images of their arteries. The researchers found the most striking results among patients with increasingly severe disease.

Individuals with the most severe disease, those with a CAC score over 400, who saw images of their heart were 2.5 times more likely to take statins as directed and more than three times more likely to have lost weight compared to those who had a scan and saw little or no evidence of underlying disease. These findings are significant because patient compliance is often a major barrier to effectively preventing and treating heart disease. For instance, compliance to statin therapy has been reported to be as low as 20 to 50 percent.

"Beyond the diagnostic and predictive value of cardiac computed tomography, it is also quite beneficial in terms of motivating people to pursue behaviors that we know result in a reduction in cardiovascular mortality and morbidity," said Nave Kalia, MD, one of the lead investigators for both studies. "Taking medication as directed, as well as adhering to behavioral modification, such as exercise for weight loss, can both have a huge impact on cardiovascular events going forward. What's most interesting is that the higher the person's calcium score, the more likely they were to be compliant."

Dr. Kalia said that while previous studies have investigated the impact that patient-viewed cardiac scans can have on behavior, these are the first large-scale studies to corroborate similar results seen in a previous study looking at a reduction in Framingham risk score; they also found statistically significant findings across all CAC scores. The researchers split groups into quartiles based on their score, which correlates in linear fashion with the severity of their disease.

The statin study included 2,100 individuals who underwent baseline CAC testing and completed a follow-up questionnaire; it found compliance was lowest (36 percent) among those with a CAC score of 0, which is indicative of very little to no disease, and was then found to increase as CAC scores increased. (1 to 99, 51.8 percent; 100 to 399, 56.5 percent; > 400, 59.1 percent; $p<0.001$ for trend). In logistical regression analysis, those with CAC scores of 1-99, 100-400 and >400, as compared to those with a score of 0, were 2.0- (95 percent CI 2.0-3.5 $p<0.001$), 2.4- (95 percent CI 2.0-3.5 $p<0.001$) and 2.6- (95 percent CI 2.0-3.5 $p<0.001$) fold respectively more likely to adhere to statin therapy when adjusted for age, gender and race.

Similar trends were found in the weight loss study (518 patients) in which behavioral modification resulting in weight loss was also lowest among those who saw the scan and did not have any evidence of coronary artery calcification. These individuals only lost weight 20 percent of the time, whereas those with severe disease (CAC>400) lost weight 40 percent of the time. In logistical regression analysis, those with CAC score of 1-99, 100-400 and >400, as compared to those with a score of 0, were 2.0- (95% CI 1.1-3.9 $p<0.001$), 3.6- (95% CI 1.7-7.3 $p<0.001$) and 3.3- (95% CI 1.6-6.9 $p<0.001$) fold respectively more likely to lose weight when adjusted for age, gender and race.

"Seeing a coronary artery calcium scan gives patients a visual picture of how severe their disease is, and this picture seems to have a really big impact," said Dr. Kalia. "With increasing use of noninvasive imaging, it seems we already have a powerful tool in helping to motivate patients to be compliant. While we haven't clarified whether this increased compliance results in reductions in event rates we have extrapolated that this would likely be the case. I think we may find this can also help improve outcomes."

Dr. Kalia said this is an important line of inquiry given that studies showing the benefits of medications and weight loss to prevent or treat heart disease assume fairly high compliance rates that are not sustained in real life. He said he hopes that cardiac images, which are already a routine part of patient evaluation, further motivate patients to take action for their heart health.

Because this was a retrospective study, the reasons for doing the CAC study were varied across patients. All patients underwent baseline CAC testing; those in the statin study then completed a comprehensive follow-up questionnaire and those in the weight loss study returned for a follow-up scan with documented weight taken at visits one and two.

The database Dr. Kalia and his team used went back a decade, meaning the indications for getting scans have changed and expanded since the start of the study. Today, coronary CT scans are most commonly used to risk stratify people who arrive at the hospital with chest pains or suspected coronary disease and are considered to be at intermediate risk.

Additional research is warranted to confirm these findings prospectively and to look at how increased compliance translates to improved outcomes for patients.

Dr. Kalia reports no conflicts of interest.

ACC2012特集

[News01]

ボースでの抗凝固薬投与はSTEMI後の梗塞サイズを減少させる

[News02]

骨髓は虚血性心不全治療に有効ではない

[News03]

患者の生存期間はPCI後よりもCABG後の方が長い

[News04]

オンポンバイパス術とオフポンバイパス術の短期予後は同等である

[News05]

血管形成術後の抗血小板薬3剤併用は有効である

[News06]

新たなクラスの血小板阻害薬は有効であることがphase IIIトライアルで証明された

[News07]

テレメディスンは薬物療法管理および患者ケアを改善する

[News08]

閉塞血管については、百聞は一見に如かず

[News09]

ERにおける心臓CTにより胸痛の原因が迅速に同定できる

[News10]

肺塞栓症に対するrivaroxabanの効果は標準治療の効果と同等である

[News11]

妊娠は心筋梗塞のリスクを上昇させる

[News12]

LDL低下療法は早く開始するほどよい

[News13]

モノクローナル抗体はスタチン療法の有効性に上乗せできる

[News14]

高血圧の早期発見早期治療の重要性