

ABSTRACT SECTION

1. Accuracy of carotid plaque detection and intima–media thickness measurement with ultrasonography in routine clinical practice

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Abstract

Background

Current guidelines in cardiovascular disease prevention advocate the use of carotid ultrasound measurements for risk stratification. Carotid abnormalities (plaques or increased intima–media thickness (IMT)) are associated with high risk of coronary and peripheral artery disease. An office-based measurement by clinicians would considerably broaden the clinical applicability of carotid ultrasound. In the present study we have assessed the accuracy of ultrasound detection of carotid plaques and intima–media thickness by trained internists in a routine outpatient setting.

Methods and results

Carotid ultrasound was performed in 112 vascular outpatients by internists, after a six-week training period. The internists' results were independently

compared to the reference standard, consisting of carotid ultrasound performed in a specialized vascular laboratory. Sensitivity and specificity were calculated for plaque detection and IMT determination. The mean time required to perform the scans on the outpatient department was 7.3 min (range 4.5 to 16.7 min). A high level of accuracy for detecting plaques (sensitivity 78.5%; specificity 93.6%) was achieved. Identifying abnormal IMT had lower sensitivity but adequate specificity of 46.7% and 87.6%, respectively.

Conclusions

In conclusion, our findings demonstrate that clinicians can be trained well enough in six weeks to accurately and efficiently detect carotid plaques in an outpatient setting. IMT abnormalities were less accurately detected in the office-based approach and may require a specialized vascular laboratory.

2. Anti-t-PA antibodies in acute myocardial infarction after thrombolysis with rt-PA

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Abstract

Background

Thrombolysis with recombinant tissue-type plasminogen activator (rt-PA) is successfully used in acute myocardial infarction with ST elevation (STEMI). Reocclusions follow rt-PA treatment in up to 30% of patients within one year. The infusion of rt-PA may induce the production of anti-t-PA antibodies which could interfere with the function of the native t-PA molecule.

Methods

In order to detect and characterise anti-t-PA antibodies, plasma samples were collected from 30 STEMI patients (20 treated and 10 not treated with rt-PA) at baseline before rt-PA infusion and then 15,

30, 90 and 180 days after STEMI and from 40 healthy subjects at baseline only. Immunoenzymatic, chromatographic and chromogenic methods were employed.

Results

An increase of anti-t-PA antibodies was observed 15 days (IgM, $p = 0.0001$) and 30 days (IgG, $p = 0.0001$) after rt-PA infusion. Six patients had large increases of anti-t-PA IgG which bound the catalytic domain of t-PA (two cases) or kringle 2 domain (four cases), were of IgG1 or IgG3 subclasses and interacted with the t-PA molecule in fluid phase.

Conclusion

The infusion of rt-PA may induce the production of specific antibodies that bind active sites of t-PA, thus potentially reducing its *in vivo* function.

