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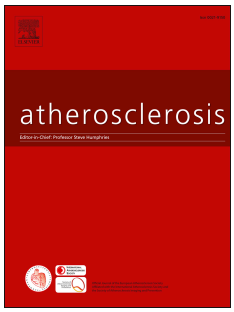

Type 2 diabetes is not associated with an altered plaque phenotype among patients undergoing carotid revascularization. A histological analysis of 1455 carotid plaques.

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Abstract

Aims

Diabetes accelerates progression of atherosclerotic disease, but data on associations between diabetes and advanced atherosclerotic plaque composition is scarce.

Methods and results

We used one of the largest biobanks, the Athero-Express study (n = 1455) at carotid endarterectomy (CEA). All plaques were subjected to histological analysis to assess lipid core size, collagen, macrophages, smooth muscle cells, micro-vessel density and calcifications. In addition, within a subset of patients cytokines and chemokines were assessed.

The 295 patients (20%) with type-2 diabetes showed a higher proportion of previous cardiovascular interventions and more stringent treatment for hypertension and hypercholesterolemia compared with patients without type-2 diabetes. Surprisingly, no associations between diabetes and histological plaque characteristics were observed. In addition, no differences were observed in the expression of inflammatory chemokines, cytokines or advanced glycation end products in plaques of diabetic and non-diabetic patients.

Conclusion

In patients suffering from significant carotid artery disease, diabetes does not appear to be associated with specific atherosclerotic plaque characteristics.

Key words:
carotid endarterectomy, carotid plaque, diabetes, and histology