

Abstract: P1219

Citation: Clinical Microbiology and Infection Volume 8, Supplement 1, 2002

Are fungi involved in the atherosclerosis process?

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Objectives:

There is growing evidence of a relationship between some infective agents (*Chlamydia pneumoniae* and cytomegalovirus) and atherosclerotic process. We sought to determine a similar implication between fungi and atherosclerosis.

Methods:

We studied atherosclerotic arterial fragments from 30 patients (24 M) undergoing peripheral vascular surgery (aorta, carotid, femoral and iliac arteries) and 30 fragments of nonatherosclerotic internal mammary arteries from patients undergoing coronary artery bypass surgery (27 M). Each fragment was separated to two pieces: one for mycological analysis and the other for direct microscopy examination and culture in specific mediums. All fragments were handled with strict cautions in order to prevent any external contamination.

Results:

Ten (16.6%) fragment cultures showed fungal growth: 9 fragments originating from atherosclerotic lesions (9/30) and only one from an internal mammary artery (1/30, $P < 0.05$). Three fungal species were identified: *Aspergillus*, *Cladosporium* and *Trichoderma*. No correlation was found between the presence of fungi and atherosclerosis risk factors.

Conclusion:

This study shows a significantly high affinity of some fungi species to atherosclerotic arterial intima. Further investigations are needed to clarify fungal involvement in atherosclerotic process.

