

See discussions, stats, and author profiles for this publication at: <http://www.researchgate.net/publication/275548253>

# ST-ELEVATION MYOCARDIAL INFARCTION IS OFTEN DUE TO INFECTION WITH PATHOGENIC BACTERIA ASSOCIATED WITH PERIODONTAL DISEASE

ARTICLE *in* JOURNAL OF THE AMERICAN COLLEGE OF CARDIOLOGY · APRIL 2011

Impact Factor: 16.5 · DOI: 10.1016/S0735-1097(11)60920-0

---

READS

7

## 6 AUTHORS, INCLUDING:



**Tanja Pessi**

University of Tampere

43 PUBLICATIONS 1,102 CITATIONS

SEE PROFILE



**Pasi P Karjalainen**

Satakunta Hospital District

75 PUBLICATIONS 726 CITATIONS

SEE PROFILE



**Antti Ylitalo**

University of Oulu

87 PUBLICATIONS 1,654 CITATIONS

SEE PROFILE



**Pekka Karhunen**

University of Tampere

273 PUBLICATIONS 5,073 CITATIONS

SEE PROFILE



60<sup>th</sup> Annual Scientific Session & Expo

E920  
JACC April 5, 2011  
Volume 57, Issue 14



## MYOCARDIAL ISCHEMIA AND INFARCTION

### ST-ELEVATION MYOCARDIAL INFARCTION IS OFTEN DUE TO INFECTION WITH PATHOGENIC BACTERIA ASSOCIATED WITH PERIODONTAL DISEASE

ACC Poster Contributions

Ernest N. Morial Convention Center, Hall F

Sunday, April 03, 2011, 10:00 a.m.-11:15 a.m.

---

Session Title: Myocardial Ischemia/Infarction -- Basic

Abstract Category: 1. Myocardial Ischemia/Infarction--Basic

Session-Poster Board Number: 1001-330

---

Authors: *Jussi Mikkelsen, Tanja Pessi, Pasi P. Karjalainen, Antti Ylitalo, Juhani Airaksinen, Pekka J. Karhunen, Satakunta Central Hospital, PORI, Finland, University of Tampere, Tampere, Finland*

**Background:** Periodontal disease has been associated with an increased risk of myocardial infarction (MI). The causal nature of this relationship has not been elucidated in detail. Autopsy studies have shown periodontal pathogens to be present in the culprit lesions of patients with sudden death due to acute MI.

**Methods:** Our aim was to study the possible role of bacteria in patients with acute MI. Consecutive patients with ST-elevation MI treated with primary PCI and macroscopic thrombus aspirated during the intervention were included. Control blood sample was obtained for every patient from the arterial sheath at the end of the intervention. Ortopantomographic analyses have been performed in a subgroup of patients.

**Results:** This preliminary analysis includes 22 patients. The patients were treated within 24 hours from symptom onset. The culprit vessel was LAD in 45%, LCX in 32% and RCA in 23%. Final TIMI3 flow was achieved in 91%. The macroscopic aspirate contained red thrombus in 77%, mixed thrombi in 14% and white thrombus in 9%. Detailed DNA analysis of the thrombi revealed common oral pathogens (mainly mitis-group streptococci) in 19 (86%) of the patients. Other common bacteria (for example *Chl. Pneumoniae*) were not found. Control blood samples showed no evidence of ongoing bacteremia or contamination.

**Conclusions:** Periodontal pathogens are often found in coronary thrombi of patients with acute MI. This suggests that periodontal bacteria may have a direct causative role in triggering acute MI. Patient recruitment and data analyses are ongoing and we expect to present data involving approximately 100 patients at the ACC.