

Biology and Pathology

Cardiovascular Disease

Pathobiology of myocardial infarction, healing, remodeling and heart failure: What happens where?

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Learning Objectives:

- Time course of immune cells involved in healing
- Mechanisms of cell supply
- Therapeutic and diagnostic opportunities

Myocardial ischemia creates a sterile wound which is a strong stimulus for the activation of systemic healing processes. The success of infarct healing determines whether post-MI heart failure occurs, however, we are only beginning to understand therapeutic opportunities arising in the weeks after acute MI. The talk will review aspects of infarct healing, the role of innate immune cells, and highlight the contribution of imaging to i) a better understanding of basic biology after MI and ii) improving clinical care.

Relevant Publications:

1. Frangogiannis NG. Regulation of the inflammatory response in cardiac repair. *Circ Res.* 2012 Jan 6;110(1):159-73.
2. Swirski FK, Nahrendorf M. Leukocyte behavior in atherosclerosis, myocardial infarction, and heart failure. *Science.* 2013;339(6116):161-6 – PMID: 23307733
3. Nahrendorf M, Pittet MJ, Swirski FK. Monocytes: protagonists of infarct inflammation and repair after myocardial infarction. *Circulation.* 2010;121(22):2437-45 – PMID: 20530020

Disclosure of author financial interest or relationships: M. Nahrendorf, None.