

## Dendritic cells infiltrate the cardiac muscle fibers during myocardial infarction

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Myocardial infarction (MI) consists in myocardial cell death due to prolonged ischemia. Partial ischemia at the periphery at the necrotic area may lead to "hibernating" myocardium, which may eventually recover. Upon necrosis an inflammatory process starts [1], leading to healing through formation of a fibrous scar. Dendritic cells (DC) are involved in the regulation of immune responses and in the organization of inflammatory cell infiltrates in vascular wall, even independent of immune reactions. Another cell type involved in acute reaction to tissue injury are mast cells. The behaviour of DC and mast cells in myocardial infarction is still to be studied. To address this issue myocardial samples were taken at autopsy from the left ventricle of subjects respectively affected by (1) coronarosclerosis, (2) acute MI, (3) previous MI, and (4) traumatic lesions assumed as controls. Cryosections were stained with haematoxylin eosin and by immunohistochemistry. Fiber alterations consisting in loss of acidophilia and disappearance of nuclei and intercalar disks were found only in acute MI, while a cell infiltrate was found both in acute and previous MI. Massive infiltration of DC was found only in acute MI, while mast cells were similar to controls. These preliminary results suggest that DC react early to myocardial injury and therefore may be candidate regulators of the inflammatory and scarring response in this tissue and markers of acute myocardial infarction.

### References

- [1] Frangogiannis NG (2012) Regulation of the inflammatory response in cardiac repair. *Circ. Res.* 110: 159-173.

### Keywords

Myocardial infarction, dendritic cells, cellular myocardium.