

Inflammation and Atherosclerosis: A Dynamic Connection

Kim Berkeley*

Department of Cardiovascular Diseases, Shanghai Jiao Tong University, Shanghai, China

Description

Abstract: This review explores the dynamic connection between inflammation and atherosclerosis, highlighting the role of immune cells and signaling pathways in the development and progression of atherosclerotic plaques. It discusses the interplay between chronic inflammation and the local immune response within the vessel wall, leading to the formation of vulnerable plaques that are prone to rupture and thrombosis. Key findings include the involvement of macrophages, T cells, and various cytokines in the inflammatory process, and the potential for therapeutic interventions targeting these pathways to reduce cardiovascular risk.

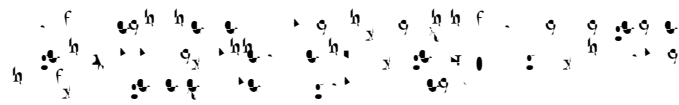
Introduction: Atherosclerosis is a complex, multifactorial disease characterized by the accumulation of lipids and immune cells within the arterial wall, leading to the formation of atherosclerotic plaques. The dynamic connection between inflammation and atherosclerosis is a central theme in understanding the pathogenesis of this disease. This review aims to provide a comprehensive overview of the current knowledge on this topic, focusing on the molecular and cellular mechanisms underlying the inflammatory response in atherosclerosis.

*Corresponding author: Kim Berkeley, Department of Cardiovascular Diseases, Shanghai Jiao Tong University, Shanghai, China, E-mail: kim_berk@hotmail.com

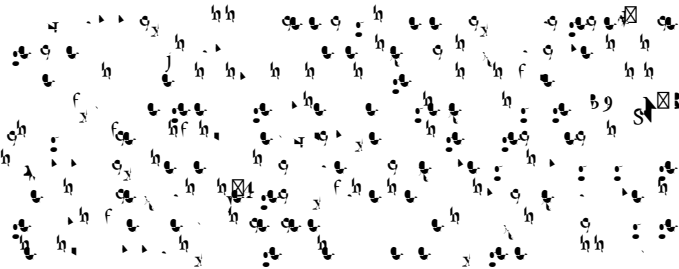
Received: 01-Apr-2023, Manuscript No. asoa-23-100060; Editor assigned: 03-May-2023, PreQC No. asoa-23-100060(PQ); Reviewed: 17-May-2023, QC No. asoa-23-100060; Revised: 22-May-2023, Manuscript No. asoa-23-100060(R); Published: 29-May-2023, DOI: 10.4172/asoa.1000208

Citation: Berkeley K (2023) Inflammation and Atherosclerosis: A Dynamic Connection. *Atheroscler Open Access* 8: 208.

Copyright: © 2023 Berkeley K. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.



Summary



References

1. Ross R (1999) Atherosclerosis - an inflammatory disease. *N Engl J Med* 340:115-126.
2. Ross (1986) The pathogenesis of atherosclerosis- an update. *N Engl J Med* 314:488-500.
3. Newby AC (2000) An overview of the vascular response to injury: a tribute to the late Russell Ross. *Toxicol Lett* 112:519-529.
4. Hansson GK, Jonasson L (2009) The discovery of cellular immunity in the atherosclerotic plaque. *Arterioscler. Thromb Vasc Biol* 29:1714-1717.
5. Libby P, Ridker PM, Maseri A (2002) Inflammation and atherosclerosis. *Circulation* 105:1135-1143.
6. Gistera A, Hansson GK (2017) The immunology of atherosclerosis. *Nat Rev Nephrol* 13:368-380.
7. Tabas I, Lichtman AH (2021) Monocyte-macrophages and T cells in atherosclerosis. *Immunity* 47:621-634.
8. Crea F, Libby P (2017) Acute coronary syndromes: the way forward from mechanisms to precision treatment. *Circulation* 136:1155-1166.
9. Ridker PM, Danielson E, Fonseca FA, Genest J, Gotto Jr AM, et al. (2008) Rosuvastatin to prevent vascular events in men and women with elevated C-reactive protein. *N Engl J Med* 359:2195-2207.
10. P.M. Ridker, B.M. Everett, T. Thuren, et al. CANTOS trial group. Antiinflammatory therapy with Canakinumab for atherosclerotic disease. *N Engl J Med* 377:1119-1131.
11. Ridker PM, Everett BM, Thuren T, MacFadyen JG, Chang WH, et al. (2017)