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inflammation -- Section 7. A Universal Role of Cholesterol Crystals Beyond Cardiac Disease -- Chapter 21. Solid Tumors with crystal induced VEGF -- Chapter 22. Alzheimer's with evidence of cholesterol crystals -- Chapter 23. Apical periodontitis -- Chapter 24. Biliary disease by cholesterol gall stones -- Chapter 25. Ocular retinal injury in diabetic retinopathy -- Section 8. Therapeutic Implications - Targeting Cholesterol Crystal Induced Disease -- Chapter 26. Lipid lowering with Statins -- Chapter 27. Anti-inflammatory Colchicine, canakinumab, Aspirin -- Chapter 28. Future Directions and Developments Cyclodextrin.

Sommario/riassunto

This book is the first authoritative and comprehensive text dedicated to the understanding of how cholesterol triggers vascular inflammation and mechanical injury that leads to heart attacks, strokes as well as other organ and tissue pathology. It includes chapters on the background of cholesterol crystal formation and methods for their detection as well as a description of the physiochemical transformation of metastable 'liquid' cholesterol to a solid flat plate crystalloid within the cellular and extracellular environment resulting in volume expansion. Chapters also discusses cholesterol crystals and other crystalloid molecules found in atherosclerotic plaque. In addition, the book examines how cholesterol crystals can induce similar injurious processes in other organs including the retina of the eye to cause blindness, in solid cancers causing further tumor growth and in the brain of patients with Alzheimer's. And lastly, the book addresses various potential therapeutics that disrupt the physiochemical transformation of cholesterol from a liquid to a solid, inhibit its role in triggering inflammation and tissue injury while ushering a path towards targeted therapies. Cholesterol Crystals in Atherosclerosis and Other Related Diseases will be of interest to cardiologists as well as individuals in various fields of science including crystallography, basic and clinical imaging, cardiac oncology, and drug discovery.