Atherosclerosis and its late sequels are still the number one cause of death in western societies. Platelets are a driving force not only during the genesis of atherosclerosis, but especially in its late stages, as evidenced by complications such as arterial thrombosis, myocardial infarction, and ischemic stroke. Atherosclerosis is increasingly recognized as an inflammatory disease, influenced by various immune mechanisms. The complement system is part of our innate immune system, and its diverse roles in atherosclerosis have become evident over the past years. In this review we identify points of intersection between platelets and the complement system and discuss their relevance for atherosclerosis. Specifically, we will focus on roles for platelets in the onset as well as progression of the disease, a possible dual role for complement in the genesis and development of atherosclerosis, and review emerging literature revealing previously unrecognized cross-talk between platelets and the complement system and discuss its possible impact for atherosclerosis. Finally, we identify limitations of current research approaches and discuss perspectives of complement modulation in the control of the disease.