Nonallergic angioedema: role of bradykinin.

Abstract:
Angioedema is an underestimated clinical problem. Many cases are nonallergic reactions, e.g. bradykinin-induced angioedema caused by genetic defects and angiotensin-converting enzyme (ACE) inhibitors. This difference is crucial for successful therapy, in particular when complete emergency care is not available. Five important forms of nonallergic angioedema can be distinguished: hereditary (HAE), acquired (AAE), renin-angiotensin-aldosterone system (RAAS)-blocker-induced (RAE), pseudoallergic angioedema (PAE) and idiopathic angioedema (IAE). Some angioedema are present in the larynx and may cause death. A vast majority of nonallergic angioedema are RAE, particularly those caused by ACE inhibitors. It appears important to emphasize that in patients with complete intolerance to RAAS-blockers, cessation of RAAS-blockers is likely to be associated with increased cardiovascular risk. Currently, there is no published algorithm for diagnosis and treatment. Angioedema is usually treated by a conservative clinical approach using artificial ventilation, glucocorticoids and antihistamines. Today, a plasma pool C1-esterase inhibitor (C1-INH) concentrate is the therapy of choice in HAE. The current pharmacotherapy of nonallergic angioedema is not satisfactory, thus requiring the identification of effective agents in clinical trials. Recently, several new drugs were developed: a recombinant C1-INH, a kallikrein
inhibitor (ecalantide) and a specific bradykinin-B2-receptor antagonist (icatibant). According to currently available reports, these drugs may improve the treatment of kinin-induced angioedema.