Therapeutic efficacy of icatibant in angioedema induced by angiotensin-converting enzyme inhibitors: a case series.

The pathophysiology of angiotensin-converting enzyme inhibitor (ACEi)-induced angioedema most likely resembles that of hereditary angioedema, ie, it is mainly mediated by bradykinin-induced activation of vascular bradykinin B2 receptors. We hypothesize that the bradykinin B2 receptor antagonist icatibant might be an effective therapy for ACEi-induced angioedema.

Eight patients with acute ACEi-induced angioedema were treated with a single subcutaneous injection of icatibant. The outcome was assessed by the time to first improvement of symptoms, complete symptom relief, and drug safety. In addition, we retrospectively assessed the clinical course of 47 consecutive patients of our clinic with ACEi-induced angioedema. First symptom improvement after icatibant injection occurred at a mean time of 50.6 minutes (standard deviation [SD] 21 minutes) and complete relief of symptoms at 4.4 hours (SD 0.8 hours). No patient received tracheal intubation, other drug treatment, tracheotomy, or a second icatibant injection. There were no adverse effects except erythema occurring at the injection site. In the historical comparison group treated with methylprednisolone and clemastine, the mean time to complete relief of symptoms was 33 hours (SD 19.4 hours). Some of these patients received a tracheotomy (3/47), were intubated (2/47), or received a second
A dose of methylprednisolone (12/47). Although sample size limits the external validity of our results, the substantial decrease of time to complete symptom relief suggests that this new treatment is likely effective as a pharmacotherapeutic approach to treat ACEI-induced angioedema.