New developments in angioedema caused by angiotensin converting enzyme inhibitors

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Drugs inhibiting angiotensin converting enzyme cause an acquired angioedema (ACEI-AAE) in about 0.5% of patients taking this treatment, black people have 3-4.5 fold higher risk than Caucasians (1). ACEI-AAE is due to bradykinin accumulation (2). The latency between the initiation of ACEI therapy and the onset of symptoms can vary from few hours to several years, although it more likely occurs early after initiation (3). ACEI-AAE usually localizes to the face, followed by lips, eyelids, tongue, neck, upper airways. Several case reports suggest that ACEI can also induce gastrointestinal angioedema: the actual frequency of this location is still poorly defined (4). Clinical culprit of ACEI-AAE are misdiagnosis, due to the loose relation between drug exposure and symptom onset, and deaths from laryngeal edema.

ACEI-AAE should be diagnosed in patients who start presenting angioedema while on this treatment, in absence of other conditions recognized to cause angioedema. Upon diagnosis of ACEI-AAE, the drug should be immediately discontinued. Surprisingly, ACEI withdrawal is not 100% effective. After switching to another treatment, 46% of patients have further recurrences of angioedema, which is independent from the substituting drug (5). Continued use of ACEI in spite of angioedema results in a marked increase in the incidence of recurrent angioedema with serious morbidity (6).

No trial assessing efficacy of treatments for ACEI-AAE has been published to date. Retrospective case series indicate that, on existing therapies, need for airway intervention in patients presenting with head and neck angioedema related to ACEI ranges from 3.6% to 34.8% (7). Ineffectiveness of existing therapies is because angioedema is mediated by bradykinin. A potential value for bradykinin-targeted
therapies, so far approved for angioedema due to hereditary C1 inhibitor deficiency, is supported by the pathophysiological mechanism as well as by some case reports and small case series. Evidence of efficacy from controlled studies is expected.

References


