

# Two cases of severe angio-oedema and rationale for their response to icatibant

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## DESCRIPTION

**First case:** A 66-year-old woman presented to the emergency department (ED) with progressively worsening shortness of breath and mild swelling of her lips. Her home medications included simvastatin, lisinopril, esomeprazole, aspirin, metoprolol and hydrochlorothiazide. Soon after admission to the intensive care unit (ICU), she was given a single dose of lisinopril, which caused her lip swelling to worsen (figure 1A). She was started on methylprednisolone and diphenhydramine with no response. She was then given a dose of icatibant, a bradykinin B<sub>2</sub> receptor antagonist, with complete resolution of the swelling within 24 h of administration (figure 1B).

**Second case:** A 39-year-old man was brought to the ED with altered mental status, and left-sided upper and lower extremity weakness. His medications prior to admission to the ICU were lisinopril, clonidine and furosemide. He was diagnosed with severe intracerebral haemorrhage and placed on nicardipine, levetiracetam and labetalol. On the fourth day of admission, he developed significant periorbital and tongue swelling (figure 2A). The tongue measured 7.9 cm from the left to right

borders and 3.3 cm from the superior to inferior borders. Nicardipine was discontinued and the patient was given an intravenous dosage of diphenhydramine with no subsequent improvement. He was given two doses of icatibant, with no improvement. Figure 2B depicts the tongue swelling after a lack of response to the icatibant. A diagnosis of idiopathic angio-oedema was made after complement levels were found to be normal, with no response to medical therapy.<sup>1</sup> The swelling resolved within a month of discharge after no further treatment.

In these cases we highlight two different causes of angio-oedema, and the usefulness of the novel drug icatibant in their treatment. Angio-oedema can be categorised as allergic (IgE mediated) or non-allergic (bradykinin mediated).<sup>1</sup> ACE inhibitor induced angio-oedema is bradykinin dependent, which probably explains why the first patient responded to icatibant while the second patient did



**Figure 1** (A) Perioral and tongue swelling prior to administration of icatibant. (B) Decreased swelling of tongue and lips 24 h after administration of icatibant.



**Figure 2** (A) Significant swelling of the tongue and periorbital region prior to administration of icatibant. (B) Lack of response to icatibant therapy 48 h after administration of icatibant.



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not.<sup>2</sup> Studies have shown icatibant efficacious in hereditary angio-oedema and ACE inhibitor-induced angio-oedema, but icatibant has not proven useful for allergic and idiopathic angio-oedema.<sup>3</sup> Icatibant has no role in the prevention of future episodes, so patients with prior attacks of ACE inhibitor-induced angio-oedema should be sure to avoid ACE inhibitor drugs such as lisinopril, captopril, and enalapril.<sup>1</sup> In these patients, no subsequent incidences of angio-oedema can be expected if ACE inhibitors are avoided. Patients with hereditary angio-oedema should avoid triggers for further episodes, such as stressful situations.<sup>3</sup>

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