Intensive Care Med (2014) 40:893–894
DOI 10.1007/s00134-014-3290-z

Alexandre Charmillon
Joëlle Deibener
Pierre Kaminsky
Guillaume Louis

Angioedema induced by angiotensin converting enzyme inhibitors, potentiated by m-TOR inhibitors: successful treatment with icatibant

Received: 24 February 2014
Accepted: 3 April 2014
Published online: 16 April 2014

Electronic supplementary material The online version of this article (doi:10.1007/s00134-014-3290-z) contains supplementary material, which is available to authorized users.

A. Charmillon · G. Louis (✉)
Service de Réanimation Polyvalente,
Hôpital de Mercy,
CHR Metz-Thionville, 1 Allée Du Château,
57530 Ars-Laquenexy, France
e-mail: gus_louis@yahoo.fr
Tel.: +33-3-87186214
Fax: +33-3-87553593

A. Charmillon
e-mail: alexandre.charmillon@yahoo.fr

J. Deibener · P. Kaminsky
Service de Médecine Interne Orientée Vers Les Maladies Orphelines Et Systémiques, CHU Nancy,
Rue Du Morvan,
54500 Vandoeuvre, France

J. Deibener
e-mail: j.deibener@chu-nancy.fr
Tel.: +33-3-83154060
Fax: +33-3-83157941

P. Kaminsky
e-mail: p.kaminsky@chu-nancy.fr

A 65-year-old woman was admitted to the emergency department for an acute dyspnea. She had a history of arterial hypertension treated by quinapril, and a breast cancer for which everolimus was given for 2 months. The physical examination found a severe dyspnea with facial edema, macroglossia, but no urticaria or pruritus (Fig. 1). After failure of orotracheal intubation, an emergency percutaneous dilatational tracheostomy was performed. Cervical computed tomography revealed upper airway obstruction induced by edema of the tongue (see supplementary electronic material). Angioedema induced by angiotensin converting enzyme inhibitors (ACEi), potentiated by everolimus was suspected. Icatibant 30 mg, a bradykinin receptor antagonist, was subcutaneously injected leading to an almost total regression of

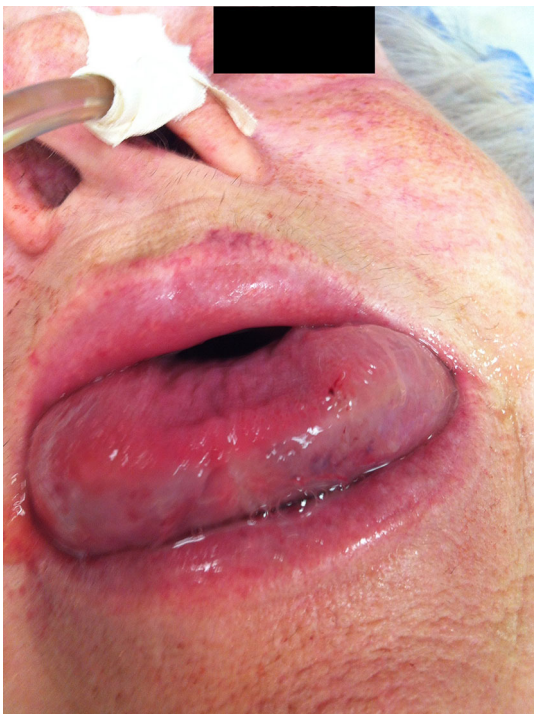

Fig. 1 Picture shows facial edema and life-threatening macroglossia related to angioedema induced by ACEi and potentiated by m-TOR inhibitors

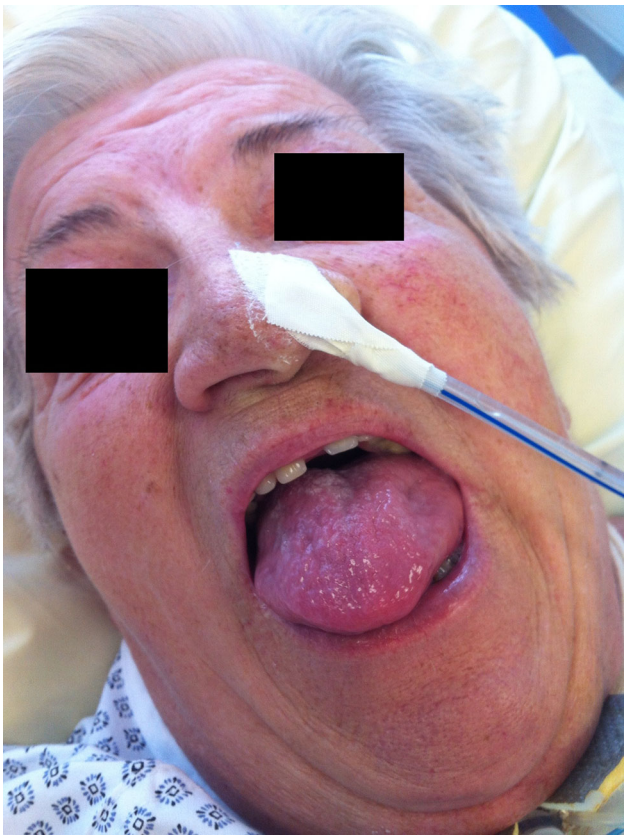

Fig. 2 Picture shows regression of edema 1 h after subcutaneous injection of icatibant, a specific bradykinin receptor antagonist

angioedema in 1 h (Fig. 2). She was decannulated on the third day and discharged from the intensive care unit. Quinapril and everolimus were discontinued without other recurrences. ACEi-induced angioedema results from reduced bradykinin catabolism with subsequent bradykinin accumulation, vasodilatation, and increased vascular permeability. In addition, the m-TOR inhibitors have been reported to interfere with the bradykinin pathway, leading to a substantially increased risk of angioedema when these drugs are simultaneously prescribed. By antagonizing bradykinin B2 receptors, icatibant is increasingly recommended in such angioedema.

Conflicts of interest There is no conflict of interest.

Patient's consent and permission to publish Consent was obtained from the patient and his family for publication of this case report and of the accompanying images.