



## PIC QUESTION OF THE WEEK: 01/24/05

**Q:** While taking enalapril to reduce my blood pressure, I experienced swelling of the lips and tongue. My physician would now like me to switch to Cozaar®. What is the risk for having the same reaction while taking this new medication?

**A:** Swelling of the lips and tongue experienced while taking enalapril is consistent with the signs of angioedema. This condition is characterized by acute subcutaneous, non-pruritic edema that involves the face, tongue, lips, larynx and/or extremities. There are various etiologies for angioedema; however, it is primarily due to adverse drug reactions and food allergy. Hereditary and idiopathic forms also exist. Enalapril is an angiotensin-converting enzyme inhibitor (ACEI) that also affects the degradation of the potent vasodilator and mediator of anaphylaxis known as bradykinin. In susceptible individuals, excess bradykinin produces vasodilation, increased vascular permeability, and fluid accumulation in the extravascular space. Cozaar® is an angiotensin II receptor blocker (ARB) that seemingly has no effect on bradykinin. Theoretically, patients experiencing angioedema with an ACEI should be able to tolerate ARBs with minimal risk of recurrence of the reaction. An extensive study of the ARB candesartan (Atacand®) in patients intolerant of ACEIs (39 with angioedema) identified only one who developed angioedema upon challenge with this ARB. A retrospective study of 26 patients with ACEI-induced angioedema revealed only two possible cases of similar reactions upon re-challenge with ARBs. Although there is no contraindication, some caution is probably still warranted when using ARBs in patients with a history of ACEI-induced, hereditary, or idiopathic angioedema. ACEIs are contraindicated in patients with idiopathic or hereditary angioedema.

### **References:**

- Cicardi M, Zingale LC, Bergamaschini L, et al. Angioedema associated with angiotensin-converting enzyme inhibitor use. *Arch Intern Med* 2004;164:910-3.
- Granger CB, McMurray JJV, Yusuf S, et al. Effects of candesartan in patients with chronic heart failure and reduced left-ventricular systolic function intolerant to ACE inhibitors: the CHARM-Alternative trial. *Lancet* 2003;362:772-6.

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