

SEVERE ANGIOEDEMA ASSOCIATED WITH OLMESARTAN

Olmesartan medoxomil is an angiotensin II receptor blocker (ARB) for treating hypertension. Olmesartan has an excellent safety profile and is associated with only a few adverse effects or drug interactions (Fig 1).

We report the case of a 71-year-old, white woman who underwent cadaveric kidney transplantation because she had polycystic kidney disease since 2001, hypertension, and a history of multiple episodes of angioedema because of enalapril administration from 1998 to 2001—some of which occurred with an airway compromise. After discontinuation of enalapril treatment, she remained asymptomatic for 9 years.

Three years ago, a primary care physician had administered olmesartan medoxomil (40 mg/d) to achieve a better control of hypertension. In March 2010, she was admitted to the emergency department because she had a new episode of acute angioedema of the tongue and dysphagia, which improved partially with corticosteroids and antihistamines. A few hours after her discharge, the patient's symptoms worsened, and she was readmitted to the emergency department. She had a significant amount of soft tissue edema in the soft palate, uvula, tonsillar pillars, and posterior oropharynx. Therefore, she was treated again with antihistamines and corticosteroids and placed in the observation room. No skin lesions or urticaria was noted, and the symptoms did not appear to be associated with food or new drugs.

Later, she presented with an episode of respiratory failure secondary to glottic edema, which did not improve with epinephrine, corticosteroids, and supplemental oxygen. Therefore, the patient was intubated and admitted to the intensive care unit for the next 48 to 72 hours for the gradual resolution of her symptoms.

Initially, no one suspected a relationship between olmesartan and angioedema because these symptoms are generally not attributed to a drug that has been taken for many years. She was assessed in the Allergy Department so that the other causes of angioedema could be ruled out, and since then, the airway compromise secondary to swelling, especially in the areas of the mouth and throat, was recognized as a complication of both ARBs and angiotensin-converting enzyme (ACE) inhibitors. Therefore, olmesartan treatment was discontinued. Since then, she has never had another episode of angioedema.

The exact mechanism underlying ARB-related angioedema is unknown. Moreover, the factors predisposing a patient to ACE inhibitor-related angioedema and the subsequent development of angioedema with ARBs and the exact frequency of the occurrence of this type of angioedema are unclear.¹

Development of angioedema after the administration of ACE inhibitors has been previously well described, with an incidence of approximately 0.1% to 1.0%. Such patients who have later switched to ARBs have occasionally reported having angioedema as well. The frequency of angioedema recurrence in patients who previously had ACE inhibitor-induced angioedema and had received ARBs varied from very low to as high as 50%.²

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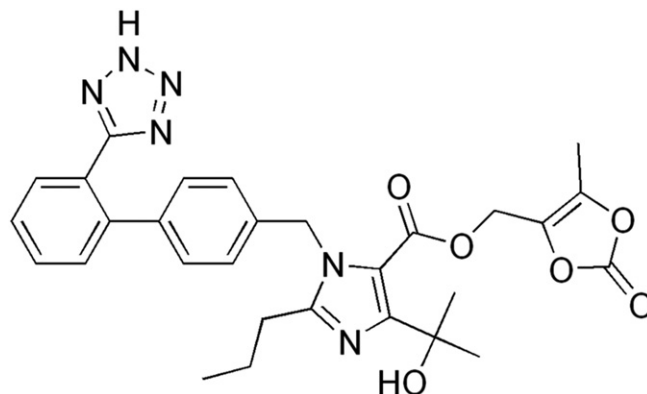


Figure 1. Structure of olmesartan medoxomil.

A recently published meta-analysis focused on the risk of angioedema associated with ARB administration in patients who had previously developed angioedema due to ACE inhibitors. The risk of this event is low; with the high end of the 95% confidence interval being 6.6%, but this event does occur. There is also a risk of developing angioedema because of ARB administration with no previous administration of ACE inhibitors, although this incidence seems to be low.³⁻⁵

In the literature, only 1 case of angioedema related to olmesartan has been published.⁶ Because of the life-threatening nature of angioedema and the considerable variation in the lag time between the initiation of ARB therapy and the development of angioedema, health care professionals should be aware of the potential adverse effects of ARBs in patients who have had episodes of angioedema related to ACE inhibitors.

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