Losartan Induced Angioedema – A Case Report.

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ABSTRACT

Angiotensin converting enzyme inhibitors (ACE I) and angiotensin receptor blockers (ARBs) are commonly prescribed as antihypertensive drugs and they also show similar side effects. However ARBs are well tolerated than ACE I with low incidence of side effects. Both these classes of drugs can rarely cause angioedema but it is extremely rare with ARBs. The exact pathogenesis of angioedema with ARBs is not known but it has been postulated to be due to activation of complement system and or other pro-inflammatory cytokines like prostaglandins and histamine. We report a case of 30 year old male patient who was taking losartan for control of blood pressure but presented with facial swelling and submandibular edema thus suggestive of losartan induced angioedema.

Keywords: Losartan, Angiotensin receptor blocker, Angioedema.

INTRODUCTION

Angiotensin converting enzyme inhibitors (ACEI) and angiotensin receptor blockers (ARBs) are widely used as antihypertensive agents either singly or in combination in clinical practice. ACE converts angiotensin I to angiotensin II which is a potent vasoconstrictor and breaks down bradykinin—a potent vasodilator. The mechanism of angioedema in case of ACE I is elevated bradykinin levels while in ARBs, angiotensin II receptor activates the bradykinin- prostaglandin nitric oxide pathway, resulting in bradykinin–mediated side effect of angioedema. Unlike ACE I, ARBs do not increase bradykinin levels and hence side effects like angioedema and cough are less commonly observed with them. As a result, ARBs are commonly prescribed to control hypertension when people are intolerant to take ACE I’s due to side effects. We report a case of losartan induced angioedema in a 30 year male.

DISCUSSION

Angioedema is described as acute localised non pruritic edema which involves the face, tongue, pharynx, larynx, intestine, extremities and peripheral tissues. It usually appears within first few weeks of ACE I therapy in 60% cases while it may appear later on also. The usual mechanism is activation of the complement system and or other
proinflammatory cytokines such as prostaglandins and histamine, which causes vasodilation and edema. Angioedema can also be caused by drugs like aspirin and nonsteroidal anti-inflammatory drugs. The incidence of ACE I induced angioedema cases have also been reported in elderly females with history of drug rash and seasonal allergies.[4] Some degree of angioedema cross reactivity occurs between ACE I and ARBs but such incidence is low even less than 10%.[5] and few cases have been reported worldwide also.[6] The ARBs specifically block the interaction of angiotensin 2 ARBs receptor level thus increasing water and salt excretion, relaxing smooth muscles, reducing plasma volume and decreasing cellular hypertrophy. Usually they are given once daily dosing.[7] These drugs by blocking the rennin angiotensin aldosterone system are greatly effective in the reduction of blood pressure, regression of cardiovascular remodelling, prevention of progression of diabetic nephropathy to end stage renal failure and prevention of cardiovascular morbidity and mortality–hence they are widely used in clinical practice.[8] ARBs rarely cause serious adverse effects like cough, hepatotoxicity, angioedema and neuropsychiatric symptoms. Only few case reports of losartan induced angioedema have been reported in the literature. Angioedema is a serious recognised adverse effect of ARB therapy and patients started on them should be made vigilant to look for the early signs so as to necessitate prompt preventive measures.

**CONCLUSION**

Losartan and other ARBs are commonly used in hypertensive patients and are also prescribed in patients intolerant to use of ACE I due to their side effects. A close watch, awareness and strict vigilance is warranted to prevent such untoward effects.

**REFERENCES**

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