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Angioedema: Reaction to ACE-Inhibitors

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Introduction

Angiotensin-converting enzyme inhibitor (ACEI) medications are one of the leading causes of angioedema in the United States, also known as ACEI RA (Chan & Soliman, 2015). ACEI medications are frequently prescribed to help manage diseases, such as hypertension and congestive heart failure, and include, but are not limited to lisinopril and enalapril, with lisinopril being the most commonly prescribed at this time (Chan & Soliman, 2015). In addition, ACEIs are used to help prevent myocardial infarction, diabetic neuropathy, and a cerebrovascular accident (Chiu, Ignaszewski, & Schwenger, 2011). According to Lutfi et al. (2014), about 40 million people were taking ACEIs in 2000, with ACEI RA occurring in only “0.1%-0.5%” of cases (p. 206). Less than six percent sounds like a rather small number; however, with such a large population taking ACEIs, the potential cases of related angioedema amount upwards to two million patients (Lutfi et al., 2014). There are several risk factors for developing ACEI RA, with the greatest at risk group being African-American females, who are “two-to-three times more likely to develop ACEI-RA” (Elmiger, 2016, p. 41). A list of known risk factors for developing ACEI RA is provided in the best section. The length of time taking an ACEI does not determine if or when angioedema will occur. In a study by Chan and Soliman (2015), one patient took an ACEI for nearly 20 years without any signs of an allergic reaction, while another had suddenly developed angioedema as a result of the ACEI. The author of this research project has seen angioedema caused by ACEI medications because it is seen frequently in the emergency department, which is the author’s current area of practice. Under-studied ACEI RA is important for all involved in direct patient care, particularly emergency medicine physicians and those who have prescription privileges. When prescribing a drug from this class, one must understand the pharmacokinetics of ACEIs in the human body and the particular patient’s risk factors for developing angioedema, then weigh the risks versus benefits in order to provide the best possible care to patients.

Signs & Symptoms

The following are signs and symptoms associated with ACEI RA, with a cough being one of the first symptoms a patient may notice, and should be a warning sign to healthcare providers that the patient may be experiencing a potential reaction to the ACEI (Chan & Soliman, 2015, p. 292). Also, potential risk factors for developing ACEI RA are provided below (Shelbaker et al., 2016, p. 479).

Conclusion

ACEIs are highly effective for treating several chronic diseases that would otherwise have a much higher morbidity and mortality rate (Chua et al., 2012). Despite the positive benefits of this medication class, the deleterious effects of angioedema warrant vigilant screening of patients taking ACEIs by healthcare providers and promoting awareness in patients and close family members. It is unknown if the author’s research on angioedema in ACEI RA is too high, the average angioedema amount upwards to two million patients (Chua et al., 2012). Despite the positive benefits of this medication class, the deleterious effects of angioedema warrant vigilant screening of patients taking ACEIs by healthcare providers and promoting awareness in patients and close family members. It is unknown if the author’s research on angioedema in ACEI RA is too high, the average angioedema amount upwards to two million patients (Chua et al., 2012). Despite the positive benefits of this medication class, the deleterious effects of angioedema warrant vigilant screening of patients taking ACEIs by healthcare providers and promoting awareness in patients and close family members. It is unknown if the author’s research on angioedema in ACEI RA is too high, the average angioedema amount upwards to two million patients (Chua et al., 2012). Despite the positive benefits of this medication class, the deleterious effects of angioedema warrant vigilant screening of patients taking ACEIs by healthcare providers and promoting awareness in patients and close family members. It is unknown if the author’s research on angioedema in ACEI RA is too high, the average angioedema amount upwards to two million patients (Chua et al., 2012). Despite the positive benefits of this medication class, the deleterious effects of angioedema warrant vigilant screening of patients taking ACEIs by healthcare providers and promoting awareness in patients and close family members. It is unknown if the author’s research on angioedema in ACEI RA is too high, the average angioedema amount upwards to two million patients (Chua et al., 2012). Despite the positive benefits of this medication class, the deleterious effects of angioedema warrant vigilant screening of patients taking ACEIs by healthcare providers and promoting awareness in patients and close family members. It is unknown if the author’s research on angioedema in ACEI RA is too high, the average angioedema amount upwards to two million patients (Chua et al., 2012).