Intestinal Angioedema from ACE-inhibitor

Author informations :

Valentine Gillion, MD Department of Nephrology, Cliniques universitaires Saint Luc, Brussels, Belgium

Email : valentine.gillion@uclouvain.be

Cristina Anca Dragean, MD, Department of Radiology, Cliniques universitaires Saint Luc, Brussels, Belgium

Géraldine Dahlqvist, MD, Department of Gastro-Enterology, Cliniques universitaires Saint-Luc, Brussels, Belgium

Michel Jadoul, MD, Department of Nephrology, Cliniques universitaires Saint-Luc, Brussels, Belgium

We obtained the consent form from the patient.

A 41-year old Congolese woman born in 1977 presented in February 2018 to our Emergency Department with severe abdominal pain. Her medical history was notable for idiopathic collapsing glomerulopathy for which she was being initially treated with corticosteroids, later switched to Tacrolimus. Additionally she was on Candesartan 16 mg/d, then latter switched in 2014 to Enalapril 20 mg/d. During 2017, she was poorly compliant with her medications. Her current medications (in February 2018) included Tacrolimus, Furosemide, Spironolactone, Lercanidipine and Enalapril.

In the Emergency department, computerized tomography (CT) revealed jejunal wall edema with ascites (Image 1). An enteroscopy was normal 10 days later as were jejunal biopsies. ACE-inhibitor induced angioedema was suspected on the basis of the clinical presentation and CT images. Enalapril was stopped. Abdominal pain resolved, without relapse.

Interestingly, she had visited the Emergency Department for abdominal pain three times in 2016 and twice in early 2018 (thus interestingly never in 2017, when her drug adherence was very low). She incidentally mentioned recent transient swelling of her lips (Image 2a, a selfie stored on her smartphone). After ACEI withdrawal, the swelling resolved and did not recur (image 2b)

ACE-I-induced angioedema results from inhibition of bradykinin and substance P degradation by ACE (kininase II), leading to vasodilatation and increased vascular permeability. High risk groups include women, people of African heritage, smokers and patients with a history of seasonal allergies or drug rash. Angioedema often occurs within 1 week after ACE-I start (but sometimes only years later). It usually affects the lips, tongue, face and upper airways and may be life-threatening. Angioedema although rarely involves the gastrointestinal tract solely, has been well documented. Patients present with non-specific symptoms such as diffuse abdominal pain, cramping, nausea, and vomiting. Imaging is needed to reveal segmental edema of the small intestine, often associated with free fluid in the abdomen. There are no routine laboratory tests to diagnose ACE-I-induced angioedema and a high clinical index of suspicion is needed to diagnose this condition in patients on ACE-inhibitors with recurrent abdominal symptoms for which no cause is found. As soon as the diagnosis is suspected, ACE-I should be discontinued.

Legend : Image 1a : : CT scan without contrast agent shows fluid within the small bowel, whose wall is thickened. There is also mesenteric edema.