

## ACE-gene polymorphism, particularly “D/I”, may play a role in the occurrence of COVID-19 pneumonia in hypertensive elderly patients

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Renin-angiotensin-aldosterone system has an important role in the pathophysiology of high blood pressure.<sup>[1]</sup> Also, angiotensin II and bradykinin are vasoactive molecules with multiple acute and chronic effects on the cardiovascular system.<sup>[1,2]</sup> As stated in recent reports, COVID-19 pneumonia more frequently occurs in COVID-19-positive hypertensive elderly.<sup>[2]</sup> To the best of our knowledge, COVID-19 pneumonia has a grave prognosis in hypertensive and elderly patients. Angiotensin-converting enzyme (ACE) genotype has been blamed for this course, and although the interaction between COVID-19 and ACE receptors interaction has been well defined, ACE genotype polymorphism has not been fully elucidated, yet.<sup>[3]</sup> In this infection, many researches and reports have shown the effect of ACE insertion deletion (I/D) gene polymorphism on risk, prognosis, and reaction to treatment of many diseases such as hypertension, heart failure, myocardial infarction, diabetes, diabetic nephropathy, and cancer.<sup>[3]</sup> It is well-known that ACE gene is located on chromosome 17 and polymorphism consists of three types within the intron 16 (DD, ID, II) and depends on heredity, ethnicity, and geographical considerations.<sup>[4]</sup> Furthermore, D/I type has been found more frequently in hypertension, diabetes, and myocardial infarction.<sup>[4]</sup> Prognosis is more grave in this genotype polymorphism. Our suggestion is that D/I type ACE gene polymorphism should be a research of interest for predicting prognosis and propensity of COVID-19 infection in hypertensive elderly patients.

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