

# Review of: "[Case Report] Ramipril-Induced Angioedema in a Patient With Basal Ganglia Bleed: A Case Report"

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**Potential competing interests:** No potential competing interests to declare.

In this short clinical case report, authors report the presence of an angioedema in a patient treated with Ramipril and Amlodipine. Authors hypothesized the role of Ramipril and stopped the medication. They observed (figure 1B) a decrease of the angioedema. Their conclusion is that Ramipril is the cause of the angioedema.

It is important to alert people to the side effects of drugs. Several articles and case reports already report the risk of angioedema with Ramipril. In 2008, in a clinical trial comparing Ramipril and Telmisartan (DOI: 10.1056/NEJMoa0801317), it was shown that the risk of angioedema is higher with Ramipril. Nevertheless, the interesting conclusion is that the combination of both therapies increased the side effects.

The effect of Ramipril on angioedema development may be due to bradykinin (DOI: 10.20452/pamw.3273). Indeed, the side effect of Ramipril may be due to bradykinin degradation following ACE inhibition. Nevertheless, recently, Guillaume Becker et al. demonstrated that the angioedema, probably due to Ramipril, is not resorbed after Ramipril discontinuation (<https://doi.org/10.1080/03007995.2021.1971183>).

Thus, the conclusion of the authors is probably the right one. But another one might be the combination of Ramipril and Amlodipine. Indeed, it is also known that Amlodipine can be related to angioedema (DOI: 10.7759/cureus.42202). Furthermore, it is known that Telmisartan and Ramipril conjugated the risk of angioedema (doi: [10.4103/0976-500X.136113](https://doi.org/10.4103/0976-500X.136113)).

To the best of my knowledge, there do not exist clinical cases of angioedema due to the combination of Ramipril and Amlodipine. But it may be the case.

From my point of view, authors might be more prudent with their conclusion. Ramipril is probably the cause, but it is not the only hypothesis.