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Title:	A comprehensive characterization of the side - effects of an angiotensin enzyme inhibitor on drosophila larval hematopoiesis
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Abstract:	Angiotensin-Converting Enzyme (ACE) is a dipeptidyl carboxypeptidase that catalyzes the hydrolysis of dipeptides from the carboxy-terminal. It plays an important role in Renin- Angiotensin-Aldosterone System (RAAS) which is a critical regulator of blood pressure, a major risk factor for cardiovascular diseases. ACE inhibitor act as an anti-hypertensive drug where it inhibits the activity of ACE, such that the production of Angiotensin II (vasoconstrictor) and inactivation of Bradykinin (vasodilator) does not take place. This helps in lowering down the blood pressure in hypertensive patients. ACE hydrolyzes a variety of substrate peptides and not just Angiotensin I, signifying its importance in various biological processes. The side-effects of ACE inhibitors have been extended to its role in immunosuppression according to several reports. Studies have also demonstrated the effect of ACE inhibitors in lowering down hematocrit values, thereby leading to anemia. These data implicate that there might be a side effect of ACE inhibitors on hematopoiesis. Interestingly, Drosophila Ance which is a homolog of human ACE has been shown to interact with the ACE inhibitors. Moreover, the presence of ACE homolog and the absence of Renin makes Drosophila melanogaster a good model system to study the side-effect of ACE inhibitor- like Captopril on the myeloid cells. The current study establishes the effect of an ACE inhibitor- Captopril on the blood cells housed in the hematopoietic organ in Drosophila larvae, the side-effects of which were extended to some physiological functions.
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