

High altitude and pre-eclampsia: Adaptation or protection**Sarah I Y Ahmed**

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Adaptive genes of high altitude can also be protective in diseases like preeclampsia, hypertension and diabetes mellitus, Alzheimer, Parkinson disease and cancer, which may result from deregulation of hypoxia pathway. The examples of pre-eclampsia and normal pregnancy were studied to see if the hypoxia-induced disorders can be dragged towards adaptation. Here, we analyze the genetic variants that are known to be associated with adaptation to high altitude hypoxia. Our results demonstrated that the genetic variants of EPAS1, ADAM9 and EGLN1 increased approximately three-fold in the cases of preeclampsia compared to normal pregnancy. This may suggest the ability of the hypoxic cells of preeclampsia to respond to the high selective pressure of hypoxia with a higher degree of genetic variability, which can lead to adaptation. Signs of acclimatization were seen both in cases and controls but with higher frequencies in controls. This can be a new approach that follows patients' genetic selection and susceptibility of individuals for adaptability, which could be enhanced by drug development.

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