



*Letter to the Editor*

## **High altitude pulmonary edema and hypoxia-related genes - *Genet. Mol. Res.* 14 (3): 11562-11572 “Correlation between single nucleotide polymorphisms in hypoxia-related genes and susceptibility to acute high-altitude pulmonary edema”**

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Dear Editor,

We read the article ‘Correlation between single nucleotide polymorphisms in hypoxia-related genes and susceptibility to acute high-altitude pulmonary edema’ by Wu et al. with great interest (Wu et al., 2015). Authors have evaluated 1200 new recruits of Han origin and reported a correlation between six hypoxia-related gene expression and susceptibility to high altitude pulmonary edema (HAPE). We were interested in knowing the HAPE Lake Louise Standard Diagnostic Score of these 103 individuals belonging to ‘HAPE Group’ because the reported incidence of HAPE as 8.6% (103/1200) seems to be on the higher side as compared to its expected incidence (Bärtsch et al., 2005; Gao and Gao, 2009). Was this score based on the conventionally used diagnostic

criteria laid down by the Lake Louise consensus on the definition and quantification of altitude illness consensus committee (Roach et al., 1993)? Also, it would have been nice if authors had reported the day on which HAPE was diagnosed and the time elapsed, indicating amount of hypoxic exposure, between the diagnosis of HAPE and collection of the venous blood sample in the morning. The environmental factors like type and quantum of physical activity of the subjects, on reaching the plateau, would have also affected the expression of these hypoxia sensitive genes.

Moreover, authors have concluded that the hypoxia related genes may help in identification of HAPE susceptible individuals. But do authors envisage use of outcome of this study in the field of high altitude medicine? Although the genetic susceptibility of the individual plays an important role in occurrence of HAPE, but the incidence of HAPE is also dependent on many crucial factors like the rate/mode of ascent and the final altitude achieved. The incidence of HAPE has been reported to vary between 0.2-6% at an altitude of 4500 m (Bärtsch et al., 2005) and still lesser at 3658 m, in the purview of the present study. The usefulness of this outcome remains limited as HAPE has a very low incidence and consensus has been reached upon the prevention and treatment of this disease by Wilderness Environment Medicine (WMS) (Luks et al., 2014). The cost involved in both dissemination of knowledge in a community about the importance of acclimatization for prevention of HAPE and in evacuation/treatment of HAPE patients with descent and oxygen, undoubtedly, shall be far less than the cost of carrying out proteomic and genomic studies on a mass scale for identification of HAPE susceptible individuals.

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