2. Trapnell BC, Puchalski J. Pulmonary alveolar proteinosis. In: Fishman AP, Elias JA, Fishman JA, Grippi MA, Senior RM, Pack AI, eds. *Fishman's Pulmonary Diseases and Disorders*. 4th ed. New York: McGraw Hill Medical; 2008:1312–1321.
3. Beccaria M, Luisetti M, Rodi G, et al. Long-term durable benefit after whole lung lavage in pulmonary alveolar proteinosis. *Eur Respir J*. 2004;23(4):526–531.

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Is HAPO the exclusive diagnosis of pulmonary oedema at HA?

Dear Editor,

The article on extreme altitude pulmonary oedema (EAPO) in acclimatised soldiers published in MJAFI 2012; 68: 339–345 by Maj I. D. Khan suggests that the soldiers were expected to be “acclimatised” after 39 ± 13.79 days of stay at 19,000–23,000 ft. Lowlanders never acclimatise to extreme altitude and some changes that constitute some acclimatisation at this altitude occur over much longer periods of time.¹ The title of the article is thus misleading. HAPO is known to occur in acclimatised individuals and usually follows an event like gain in altitude or respiratory infection.^{2,3} Its *de novo* occurrence in 21 soldiers, resident at a given altitude for weeks, is intriguing. That 71% cases were native highlanders is interesting since native highlanders of Ladakh have minimal musculature in the pulmonary artery which mitigates acute pulmonary hypertension which is central to the pathophysiology of HAPO.⁴ In view of the atypical setting and the large number of cases reported, we request the author to clarify the following:

1. A number of conditions like bronchitis, acute MI and pulmonary embolism may mimic HAPO.⁵ How were these conditions ruled out?
2. What were the values of vital signs and SpO₂ in the patients and healthy soldiers at that altitude?
3. Did investigations at Base Camp/Siachen hospital confirm the diagnosis?
4. Over what time period did the 31 cases occur?
5. What is the validity of using SpO₂ <75% as a criterion for diagnosing HAPO?
6. Why were acetazolamide and dexamethasone used to treat HAPO instead of internationally accepted treatment modalities^{2,5}
7. Why and on what basis was Nifedipine administered to only four “select” patients?
8. How were the symptoms/signs of HAPO (predominantly pulmonary) confusing with those of AMS (predominantly neurological)?

We also wish to correct certain factual inaccuracies in the manuscript:

1. Hypertension and orthopnoea are not features of HAPO.
2. Stage I “Acclimatisation” begins at/above 9000 ft and not below 9000 ft as depicted in Table 2.

3. HAPO bag therapy does not reset the patients’ physiology to lower altitude. It improves oxygenation and residual benefits may last for a few hours outside.
4. The descent simulated by the HAPO bag has been overstated in the example of Mt Everest.
5. Compression increases the PO₂ and not the oxygen concentration (FiO₂) inside the bag.
6. Some HAPO bags are designed to be carried as stretchers (DRDO bags).

REFERENCES

1. Grover RF, Bartsch P. Blood. In: Hornbien TF, Schoene RB, eds. *High Altitude an Exploration of Human Adaptation*. New York, NY: Marcel Dekker; 2001:731–776.
2. Luks AM, McIntosh SE, Grissom CK, et al. Wilderness Medical Society consensus guidelines for the prevention and treatment of acute altitude illness. *Wilderness Environ Med*. 2010;21:146–155.
3. Schoene RB, Hultgren HN, Swenson ER. High altitude pulmonary edema. In: Hornbien TF, Schoene RB, eds. *High Altitude an Exploration of Human Adaptation*. New York, NY: Marcel Dekker; 2001:731–776.
4. Gupta ML, Rao KS, Anand IS, Banerjee AK, Boparai MS. *Am Rev Respir Dis*. 1992;145:1201–1204.
5. Hackett PH, Roach RC. High altitude Illness. *NEJM*. 2001;345(2): 107–114.

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