High Altitude Pulmonary Edema and High Altitude Cerebral Edema in a Himalayan Trekker with a Descent Ascent Profile

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INTRODUCTION

- High-altitude illness (HAI) encompasses Acute Mountain Sickness (AMS), High-Altitude Cerebral Edema (HACE), and High-Altitude Pulmonary Edema (HAPE), typically linked to rapid ascents above 2,500 m.
- Risk factors include ascent rate, altitude of residence, and personal susceptibility.
- This report presents a case of HAPE, and HACE in a patient with a good ascent profile at Manang Valley (3,350 m) during a trek.

CASE PRESENTATION

- A 31-year-old male trekker presented with acute headache, shortness of breath and cough with blood-tinged sputum while trekking in Manang Valley.
- The patient appeared cyanosed, with labored breathing. Vitals: temperature 99°F, respiratory rate 35 breaths/min, pulse 120 beats/min, SpO2 35% on room air, BP 150/80 mmHg.
- Neurological exam showed positive tandem gaitas shown in fig A indicating early HACE.
- Portable chest USG showed B-lines as shown in fig B
- Immediate treatment included oxygen, dexamethasone, acetazolamide, and nifedipine. The patient was successfully evacuated to a lower altitude for further management and made a full recovery.

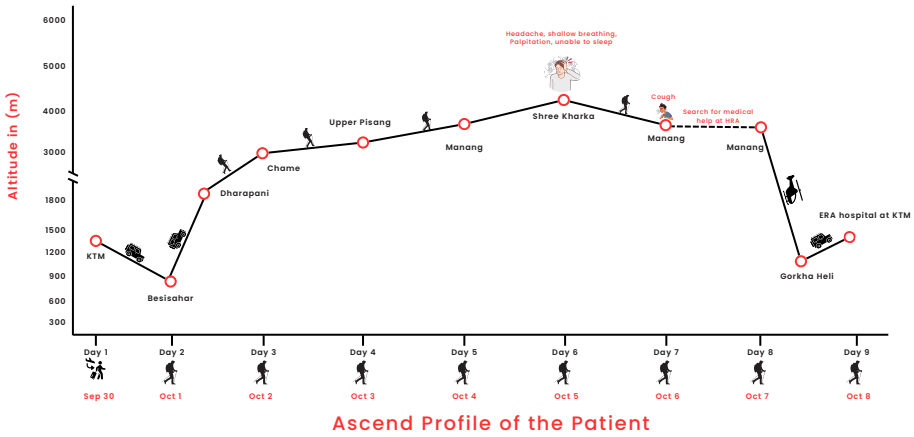
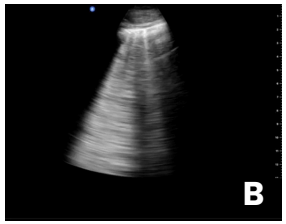


Fig : Ascend profile of the Himalayan Trekker from Kathmandu to Shree Kharkha with symptomatic HAPE and HACE.





- Fig A: Ataxic Gate of the patient
- Fig B: USG of the Lung showing B lines

DISCUSSION

- While rapid ascent is the primary risk factor, cases of HAPE and HACE can occur even in individuals with gradual ascent profiles
- Factors beyond the rate of ascent—such as individual susceptibility, genetic predisposition, or environmental stressors—also play a crucial role in the development of altitude illness

CONCLUSION

- Early recognition and treatment of high-altitude illness are crucial, even in trekkers with a gradual ascent profile.
- Travelers should be educated on the importance of gradual ascent and timely descent if symptoms develop.

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