Altitude Medicine

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Trekking or climbing to altitudes above 2500m can be associated with acute mountain sickness (AMS) or its complications. High altitude cerebral oedema (HACE), high altitude pulmonary oedema (HAPE) can be life threatening, also high altitude retinal haemorrhage can occur. Host risk-factors include cardiovascular and broncho-pulmonary pre-existing conditions, obesity and anxiety at low altitude. Children are at higher risk. Pathophysiology so far lacks of unified, coherent explanation. To determine the severity of AMS the Lake Louise score is used. The mainstay of prevention is acclimatization by slow ascent: Starting from a sleep altitude of 2500 to 3000m the climb should not exceed 500m per day and a pause every 4th day is recommended. On Kilimanjaro only 17% ascend as per this advice, on the Marangu route the climb is 740m per day. Additionally acetazolamide or other prophylactic medication can reduce the risk of AMS and HACE. The travel kit should include analgesics, ibuprofen, antiemetics against mild AMS symptoms. The prime therapy of complications is an escorted descent. As alternatives supplemental oxygen, portable hyperbaric chambers have been proposed; there also is evidence that dexamethasone can be used for HACE and nifedipine for HAPE treatment.

Objectives

1. To know the characteristics and risk-factors of AMS and its complications.
2. To know the prophylactic options for AMS and its complications.
3. To be aware of the medication needed in the travel kit to treat AMS and of the strategic options to be recommended in case of complications.