APRIL CASE DISCUSSION

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Case

A 25 year old Sherpa developed high altitude cerebral oedema at 5000m on the Mera La in Nepal whilst acting as a porter on a commercial trekking expedition. His illness was noticed by the trek leader and he was evacuated by helicopter and made a full recovery. As 'compensation' he has now been offered a place as a high altitude Sherpa on a commercial expedition to Mount Everest. You are the expedition doctor. What would you advise? What is the risk of a second attack of HACE? Whatever you advise, the Sherpa decides to climb because of the financial benefits of the job. What would you do?

Nawang Sherpa. USA

1. Nowadays, with the commercialization of trekking, anyone can become a “Sherpa”. Any Sherpa who is born in Khumbu and has been living there should be very well adapted to that altitude 5000m by the age of 25yrs unless he has got some physical problems so I think it is very importent to know his history.
2. Recently most of the lowlander Sherpas have been doing very well in climbing, with my personal knowledge the lowlander Sherps spend most of their time around Khumbu at their Sardar's (Trekking leader) house as a helper and that might be one reason that they are very well adapted to high altitude.
3. It would be good to know whether there is a history of URTI during the Mera trek.
4. Risk for second attack is still high.
5. I would not suggest that he should go above 5000m but he could try it with careful acclimatisation.
6. If it really is a problem with compensation and financial difficulties, then I would suggest that he becomes a helper at the base camp, because that is good for him and good for the expedition team.

James Milledge, UK

The question here is, "What is the risk of recurrence of HACE?" It would be interesting to know the rest of his altitude history. Does he suffer from simple AMS on ascent or was this a one off? The impression is that whilst HAPE has a high recurrence predictability, in the case of AMS and probably HACE the predictability of recurrence is not so certain. That said, I am sure that this Sherpa is at a higher risk of HAPE than the average. Since he is determined to go on this Everest expedition the important thing is to be on the look-out for the first signs of trouble and to warn the leader and sirdar of his vulnerability. They should avoid his being on his own or in a situation where early signs of HAPE might be overlooked.

Shigeru Masuyama, Japan

We know even highlanders develop AMS/HAPE/HACE. However, HACE at 5000m

in healthy highlanders is rare. If the young Sherpa was born and grown up at altitude, he might have some chronic illness. If so, he should be examined and treated before trying extreme altitude.

In case of a lowland Sherpa, born and grown up at Kathmandu or lower, AMS/HAPE/HACE could be possible as frequently as in lowlander porters. In this case, he will not show good performance at high altitude.
When I was a Kangchenjunga expedition doctor, I made a medical check on the candidates of high altitude Sherpa and omitted one sick Sherpa who was suspected of having pulmonary tuberculosis. If I am a leader or a doctor of the expedition, I will tell the Sirdar, a Sherpa leader, to exclude him from high altitude Sherpa of this expedition. He will be able to work as BC staff such as a kitchen boy.

John Severinghaus, USA
HACE in a Sherpa. Literature suggests that HACE is not as likely to repeat with each ascent as is HAPE, and even that is not a dominant effect. As HACE may be related to hypoxically induced VEGF as step 1 of angiogenesis, it is worth noting that the expression of VEGF peaks at 1-2 days and then falls despite continued severe hypoxia (in rats). Slower ascent, less stressful work, less heavy lifting especially early in his climbing should help protect him. It is probably worth having oral dexamethasone to take at the first sign of AMS or HACE.

David Hillebrandt, UK
I was going to hit the papers and books to ensure that I got the correct up to date data on recurrence of HACE but why bother? You have all that data and the academics can comment on the basis of data. I will comment as a G.P. !

This is comparible with putting an E1 leader on a poorly protected E5 climb that gets harder as one gets higher. He falls 80ft up and is just held by a poor RP 6ft above the ground. As compensation for the shock you then offer him £1million to solo the full 120ft route. I would recommend that the person offering him the "compensation" be urgently referred to a psychiatrist. This shows a total lack of insight into cultural motivation to climb on commercial expeditions. As the expedition doctor on the trip I would feel it essential to "resign" since I would not personally want to climb at high altitude with a group of people with so little understanding of high altitude problems and so little empathy with the culture they are visiting. I would not only be worried for all their Sherpas safety but also for my own safety if I were with them. I would put the reasons for my resignation in writing and outline the medico legal (and more important ethical) obligations of an expedition doctor.
If this Sherpa genuinely wanted to go high again I would be happy to be with him on a non commercial trip where we could go at our own speed and turn round when we felt it sensible. I would educate him in the use of dexamethasone to "buy time " for descent (and nifedipine) and would carry it with me but not issue it to him in case he later used it to go high when he should be descending.

I have a horrible suspicion that this may also be based on a real case.

Ken Zafren, USA
HACE can recur, but many people have developed HACE and gone on to climb to

high altitude later without problems. I would recommend a very conservative rate of ascent, initially. I would make sure that someone responsible monitors this Sherpa during the climb. I would be encourage him not to conceal symptoms for fear of being told to descend, and I would apply the same rules to him as to all climbers: do not ascend with any symptoms of AMS and descend immediately if he develops severe symptoms of AMS, especially altered consciousness or ataxia. I don't believe that there is any effective prophylaxis for HACE, although he could use acetazolamide to speed acclimatization. Dexamethasone should certainly be given in the event he develops HACE, but its use should not delay descent.

Buddha Basnyat, Nepal
The term Sherpa may be used loosely here meaning any porter and not necessarily an ethnic group which would make a difference here as our observations from the HRA aid post in the Khumbu indicate that non Sherpa porters are frequently seen in late stages of AMS ie in full blown HACE. There are several reasons: they do not want to talk about AMS for fear of losing their job and having to descend; they may be unaware of this disease entity altogether; some have been known to run up to base camp from Lukla in a day and present with full blown HACE, thinking that this entity (AMS) does not exist in the native, only in the tourist.
I would tell the trip doctor to keep close tabs on this "Sherpa" if he is going up again so that the doctor knows if he has initial symptoms of AMS for which descent and longer time for acclimatization will do the trick.
The ethnic Sherpa due to their hard work and resourcefulness have moved up the trekking and climbing heirarchy so that they no longer are load carrying porters but true mountain guides.

Robert Schoene, USA
Tough decision. Might let him go but limit his peak altitude. Would just hate to risk his getting caught up high in bad weather as his HACE is Evolving. Make him your sirdar so that he won't go high!

David Shlim, USA
1. Is the person in question actually an ethnic Sherpa? It has become confusing in recent years as the term Sherpa refers to both an ethnic group and a position on trek. Whereas Sherpas tend to be relatively altitude-illness resistant, other ethnic groups, such as Tamang, Rai, Limbu, and Gurung get altitude illness just like foreigners. If he is not a Sherpa, the fact that he got apparent cerebral edema while ascending Mera La would not be too unusual, depending on the rate of ascent. If he flew into Lukla and ascended the Mera La the next day, many people get ill on that itinerary. If that were the case, it shouldn't necessarily disqualify him from future employment with a better acclimatization schedule.

If the person is a Sherpa, that is a bit more worrisome, although one would need to know the circumstances under which he got sick--had he been in Kathmandu for a number of weeks and then flew rapidly to altitude and carried a heavy load.

2. If the person is a Sherpa (or even if he is not), one would want to be extremely skeptical about the diagnosis. There have been many cases of "altitude illness" among porters that were not compatible with what we know of altitude illness. Some

of these involve getting sick while descending after weeks at altitude, and others involve symptoms that were not compatible with AMS. So, again, before disqualifying this person from further altitude employment, one would need to find out exactly what happened. Don't misinterpret what I've said: porters do get altitude illness and they do die from altitude illness; it's just that, like with any other medical condition, one needs a careful history in order to be certain of the diagnosis.

John English, UK
The Sherpa's livelihood depends on portering he probably should risk it?

Peter Bartsch, Germany
To advise this Sherpa it would be important to know the exact circumstances, like history of previous exposures and rate of ascent when HACE occurred. This will give some information on the chances for a second episode. But a mountaineer that happens to be especially susceptible for HACE could give it a try if he strictly follow the golden rules for avoiding death from high altitude illneses. namely:

1. If you have any symptoms that do not disappear after a day of rest you must descend.
2. Never ascend with any symptoms to a higher altitude.
3. Never move alone on the mountain.

I would give dexamethasone to be carried by the accompanying person for situations when descent is not possible due to environmental conditions. Of course, this is an advice for a normal team member. In the case of a high altitude Sherpa it is different because chances are big that he cannot do his job when sticking to these rules. I would not want employ him. If he goes anyhow he should at least take Diamox plus consider all the recommendations for the normal team member. I would not give him Dexamethasone for prevention but have the drug in reserve for treatment at high altitude in case additional oxygen is not available.

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