OCTOBER CASE DISCUSSION

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This case concerns a male aged 57 in general good health on the 1997 Shara Sura (6300m) expedition, Ladak.

The subject had no previous clinical history of haemorrhage or diagnosis of peptic ulcers or oesophageal regurgitation. He had little physical training and underwent a short period of acclimatization. He occasionally used aspirin.

The subject departed from Delhi by plane and arrived in Leh (3550 m.). After 3 days, the expedition travelled by jeep to lake Tsomorari (4200 m.). This was followed by a full day's walk under a cold drizzle, and a night in a tent.

The following day after loading the horses, under a cold and constant rain, the team headed on foot for the base camp (5100 m.) arriving after 8 hours. Almost all members of the Expedition were extremely tired nauseated and had headaches. Three days later, the team started to climb to the summit. The weather cleared and they realized they were too far from the foot of the mountain, and so decided to change the base camp. Most of the team members began to feel better, but the subject lost his appetite. He used up his emergency supplies (hard cheese, dry biscuits, and prunes). August 13 at 5,30. The first episode of melaena, not noticed, with a feeling of tightness in the legs. He asked for a sleeping pill (refused). His companions suggest drinking, and then resting. At 8 a.m a further episode of melaena occurs, this time noticed. Blood pressure 120/ 70 mmHg.

The patient is pale and sweating. All members of the Expedition agree to transfer the patient to Karzok (on the Lake) and then to Leh by jeep (one day). The patient feels very very cold and drinks a lot, but there is no further overt bleeding. He arrives in Leh late in the evening. At 2,30 a.m. on August 14 there is a new discharge of melaena with partial loss of consciousness, heavy sweating, and paleness. A drip is put up (Ringer 3000 ml.). Blood pressure is 105/ 70 mm. Hg. The cardiac frequency is 90. At 7,30 a.m. the patient is transferred to the Hospital. Haemoglobin is 6,50 g/dl. A saline-glucose drip is given. Nothing else is available. Ranitidine and Omeprazole (20 X 2) are given by mouth. The patient improves and the melaena stops. The blood pressure improves (140/ 70 mmHg). The patient is discharged after two days. The treatment continues in the Hotel, with omeprazole (20 x 2), and the patient is given a diet of boiled potatoes, tomatoes, hard cheese, and vegetable puré. After return to Italy the patient refused to undergo an endoscopy.

Case Supplied by Luciano Pasquali M.D. (Expedition Doctor) and Giancelso Agazzi M.D. (Translation) "Italian Alpine Club" I.S.M.M. Permission was sought from the patient for publication.

Paul Pritchard, UK
This guy certainly had a rough time but at first impression there does not seem much new here. They ascended rather quickly to base camp at 5100m: the last 1550m in 3

days and some of this by motor transport so not surprising that most of the expedition developed AMS symptoms (it is not specified what was meant by " A short period of acclimatization".

He likely bled from an upper GI ulcer particularly as he seemed to respond to omeprazole/ranitidine. Had he used aspirin/NSAID for his AMS headache? Though there is no mention of abdominal pain and he was still eating so I guess a haemangioma of other vessel abnormality possible though no previous known occurrences of bleeding. Varices? - no haematamesis documented. Without endoscopy it is difficult to say, and even this of course may not help if it is distal to the duodenum.

However it does demonstrate, as we found on the 1998 Kangchenjnga medical expedition that carriage of IV fluids on remote expeditions can be life saving and might be worth including for this alone.
This chap could easily have died.

Buddha Basnyat, Nepal
The most likely possibility in this 57 year old gentleman is that he has had an upper GI bleed as evidenced by his malaena and the low hemoglobin. This scenario has been noted by us a couple of times in our Himalayan trekkers and climbers. The good thing is that he was given omeprazole and not just ranitidine. There is some good data from the subcontinent to show that using omeprazole significantly cuts down on surgery for active GI bleed. A take home lesson perhaps would be that Omeprazole is the drug to pack for someone with a history of upper GI bleed (I know this patient had no such history) who wishes to climb or trek in remote areas. Of course an endoscopy would have been highly advisable. He must have been one of those tough, stubborn mountaineers!!

Ken Zafren, US
This is a 57 year old male who experienced gastrointestinal hemorrhage at altitude after what was clearly a miserable approach march with a rather rapid ascent to altitude. It's not surprising that most members of the expedition had AMS. The patient experienced significant upper gastrointestinal hemorrhage. Only limited treatment was available. Fortunately the bleeding was not fatal and eventually stopped. Since the patient was unwilling to undergo endoscopy, the exact diagnosis will never be known.
After hearing about patients on Denali and at Pheriche who had to be evacuated due to gastrointestinal hemorrhage, I did a literature search on the subject of GI bleeding at altitude and turned up only some epidemiologic studies from the Peruvian Andes. This would be a possible area for further research.

David Syme, UK
1. Did he take aspirin or other NSAID for headache? This is a common cause of GI bleeding.
2. It would be interesting to know how long ago this happened. I would only be happy that a "full recovery" had been made in someone of this age, with the additional knowledge that an endoscopy was normal.

Gustavo Zubieta Jr, Bolivia
Sounds like a typical stress-related, Upper Gastro-intestinal bleed, possibly from ulcers. Two aspects are noteworthy of discussion: First: The differential diagnosis of whether this is a disorder attributed to high altitude hypoxia or a common melaena from ulcers. Most physicians with little experience in high altitude may think this is altitude related. Actually, this happens circumstantially, as with many diseases that can occur even when travelling at sea level. Second: It is however important not to disregard the significance of bleeding at high altitude. This implies an important decrease of the oxygen carrying capacity of blood, that should be carefully evaluated.

Gerald Dubowitz, US
Gastric problems are exceptionally common at altitude. Individuals who have reported only occasional and mild discomfort at sea level frequently have worsening problems at altitude. Similarly, people with regular problems at sea level have significant dyspepsia higher up. Gastro- intestinal haemorrhage is not uncommon at altitude and has plagued many expeditions over the years.

It is easy to confuse the initial symptoms of anorexia with AMS, but normally melaena tends not to go unnoticed. While it is most valuable to get the subject ‘s blood pressure, this needs to be taken in both supine and erect positions and look for a postural drop. If this isn’t possible then lying and sitting (e.g. in a tent) can reveal abnormalities which are not otherwise detected in a single supine BP.

Early evacuation or just descent is essential with a handful of simple H2 blockers (ranitidine etc) or proton pump inhibitors as available (e.g. omperazole) there is little point in giving both. Recovery is usually complete on descent and there is no particular reason why the subject, if well, cannot reascend once stable (and on adequate therapy). Next time send him with at least a months’ course of medication.

David Hillebrandt, UK
I think this illustrates excellent remote area management and evacuation of a patient with an acute medical problem that is potentially life threatening using the minimal facilities and drugs available. Praise to all concerned.

What about the next time the patient wants to join you on a trip. I would not go with him he agreed to be investigated so that a definitive diagnosis could be made, or at least attempt to be made. I would not want it to happen again and potentially ruin my next trip as well.

Jim Milledge, UK
This is obviously a case of bleeding from the gut in an awkward location and the team is to be congratulated on their management of the case. Perhaps the answer to the question, "Why did he bleed?" is in the sentence, "Occasional use of Aspirin". I remember a similar situation occurring in my friend when we were medical students and staying at Aviemore in Scotland in the days before the Centre was built. He had taken an Aspirin for headache on going to bed and the next morning had a brisk melena with the usual symptoms and signs. Fortunately he stopped bleeding and we

could treat him conservatively but his Hb was down to 7.0 when we got it done a few days later.

Brownie Schoene, US
interestingly GI bleeds do not seem to be very common at high altitude in spite of stress and type A personalities. Obviously a potentially fatal condition in remote areas. I think he was treated correctly although after his first bout of melena, I would have sent him down with antacids, omeprazole, etc. in medicine, we are always dealing with margins of safety, and with high altitude and remote areas, we are already raising the ante and not allowing for much margin. he easily could have bled to death. Once back at his age he needs a thorough work-up or ulcers, malignancy, H. Pylori, etc, but that is his choice.

Jim Litch, Nepal
This case reads as a typical presentation of GI bleed from peptic ulcer disease (PUD). The associated history of aspirin use may suggest the cause. Interestingly, I have cared for several cases of GI bleed or PUD while working as a mountaineering ranger on Mt McKinley (Denali) in Alaska, but relatively few cases during our years in the Himalaya. This may suggest a cold related feature, rather than hypoxia, as an additional precipitator of this condition. None-the-less, it must be remembered that "common conditions are common at high altitude as well as near sea level".

Tom Hornbein, US
High altitude is part of our larger universe and therefore can be not only a provocateur to, but a confounding variable for the whole gamut of disease seen at, but not exclusively at, sea level. My only other take is to be cautious bonding to this individual for future journeys, given his denial that he has a problem warranting further evaluation.

Shigeru Masuyama, Japan
Diagnosis: Acute Gastro-Duodenal mucosal lesion due to hypoxic(?) stress. Gastro-intestinal problems and GI bleeding are not rare at high altitude. I experienced the same case on a Mt. Everest expedition. The subject had several episodes of melaena at ABC (6500m) and his Hb measured there dropped to 6.5g/dl. While H2 antagonist was effective for the melena, I led him down to BC and sent him back to Japan immediately. However, gastric endoscopic examination just after arrival at Japan revealed no abnormal gastro-duodenal findings. Sugie* reported in his endoscopic examination among climbing members at Xixapangma BC (5020m) that gastro-duodenal mucosal lesion were observed in 13 out of 22 subjects. Among them, 3 acute gastric mucosal lesion(2 linear gastric ulcer and one bleeding gastritis), 2 duodenal ulcer and one gastric ulcer were included. No abnormal findings by GFS with massive melaena would suggest that acute gastric mucosal lesion (AGML) are responsible in this case.

*Japanese Journal of Mountain Medicine 11:55-58, 1991

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