May 1, Yoshikatsu Sumimoto (37) began to suffer symptoms of High Altitude Pulminary Edema (HAPE) as they ascended to the 3900 meter camp. That evening he experienced gurgling in his lungs and difficulty with his breathing. By the morning of May 2, Sumimoto's condition had deteriorated to where he had difficulty in standing and began coughing up bloody sputum. His party decided to take him down to the last camp at 3200 meters. At 1400 an American party, MOTA, encountered the Japanese where they recommended they descend to a cave and igloo at 2750 meters. At 1900 the MOTA party arrived at the 4350 meter camp and reported Sumimoto's condition to rangers Roger Robinson and Bob Seibert. Robinson and Seibert consulted Rob Roach of the Denali Medical Research Project where a CB radio, a portable O_2 (E bottle) and Diamox was obtainied to send back with the MOTA team. The MOTA party returned to 3300 meters at 2045 where they found the Japanese camped. Sumimoto was found by himself in a separate tent from the other four. Rick Maschek (of MOTA) found that Sumimoto had a pulse of 120, respirations of 28 and a temperature of 38°C. Maschek began administering O_2 at one liter per minute and gave him one 500mg of Diamox. Maschek provided Sumimoto with liquids and was adamant with the rest of the party about providing him with additional liquids and keeping someone with him at all times. At 2200 Michael Nicklas (of MOTA) skied to the 3050 meter level of the Kahiltna where he attempted to reach Kahiltna Base Camp or the NPS via his CB radio. He made no contact. At 2315 Sumimoto's pulse had improved to 108 with 24 respirations per minute. Early on May 3 at 1300 Sumimoto showed additional improvement with a pulse of 100. Maschek gave him another Diamox. By 0900, Sumimoto was feeling much better. He was able to sit up and had a pulse of 96-100. At some point in the night, the nasal cannula had frozen. Maschek put him back on oxygen that morning and reminded his partners to give him additional fluids. At 1000, Lowell Thomas, Jr., of Talkeetna Air Taxi flew over the area in an attempt to reach the Japanese party via CB radio. No contact could be made. Due to a cloud layer, Thomas made only one pass as he was uncertain of the party's location. Later in the day, Sumimoto was able to ski unassisted back down to the Kahiltna Base Camp. No further aid was given. (Source: Rober Robinson, Mountaineering Ranger, Denali National Park))

Analysis

At the first sign of altitude sickness, especially when it became clear that Sumimoto's lungs were involved, his party should have stopped ascending. When his condition deteriorated to the point that he could not walk a straight line without assistance, his group should have started down with him. Another indication for immediate descent is the combination of gurgling in the chest, cough, shortness of breath and a heart rate greater than 100 and breathing rate greater than 20. These are signs of life-threatening pulmonary edema. This man's life was saved by the prudent action of the MOTA group, the NPS and the Medical Research Group. The oxygen provided enough improvement that he could proceed down on his own. Had he descended a mere 300-500 meters when first ill, he would have made a quick recovery and could have continued on two days later. The Diamox may have helped; its use in severe HAPE is still experimental, but it certainly did no harm. (Source: Dr. Peter Hackett, Denali Medical Research Group)

FALL ON SNOW, INADEQUATE EQUIPMENT, CLIMBING UNROPED

Alaska, Mount McKinley

On May 4, 1985, at 1630, Siegfried Mayer (45), a member of the Schwardzwalder-Alaska-Bergfahrt-Expedition, was descending from the summit of Mt. McKinley. He was unroped

and his ice ax was "unavailable." He slipped and fell 200-300 meters from the 6900 meter level, then fell into a crevasse, landing on a snow ledge five meters down. After a period of unconsciousness, Mayer came to. A rope was lowered with two foot loops, and he was able to climb from the crevasse. Mayer experienced some numbness in one hand and had upper back and neck pain. Two emergency room doctors on the scene recommended evacuation. A helicopter evacuated him to Humana Hospital in Anchorage. Observation and X-rays revealed no cervical injuries. (Source: Jon Waterman, Mountaineering Ranger, Denali National Park)

Analysis

Looking through the retrospectoscope, it is clear that anyone who can climb out of a crevasse on a rope does not have a serious spinal cord injury. Neck injuries are particularly troublesome for both pre-hospital workers and ER doctors. Everyone is taught to immobilize the cervical spine for the slightest amount of trauma. That's OK for ambulance drivers minutes away from the ER. It's different on Denali. People unconscious from a head injury or paralyzed from a spinal injury are quite easy to recognize, and obviously need air evacuation if at all possible. People who have head injuries but can walk and talk and breathe may need further evaluation, but are most likely going to do fine. Climbers complaining of a sore neck who can move all their extremities and climb out of a crevasse may have minor injuries, but certainly do not warrant risk of life to be "rescued." Nor is walking off the mountain in any way going to provide anywhere near the stress on the neck that the accident did. In other words, it's a big myth that not immobilizing the neck is going to allow any further damage to occur. Also, there is no reason a climber can't walk out wearing a cervical collar immobilizer made of ensolite, for example. It does provide some support, both for the climber's and his companions' sense of well-being.

Doctors and other health professionals coming across an accident on the mountain are perhaps in a difficult position. They may not realize that there is little need to be concerned about legal liability, and they therefore may tend to act inappropriately by overreacting. Common sense needs to prevail. NPS personnel may have to act contrary to the wishes of a doctor on the scene, but they may have a better perspective from which to make a decision. I think it should be made clear to all climbing parties that emergency air evacuation is only appropriate for life and death situations. Climbers incapacitated and needing transport off the mountain, but without life-threatening problems, can usually be taken to a safe evacuation site and wait, if necessary, for safe flying weather. (Source: Dr. Peter Hackett, Denali Medical Research Group)

Editor's Note: For additional perspectives on this kind of accident, see ANAM, 1985, p. 35; the AA News, September 1985, pp. 16-17; and the Mt. McKinley May 26 accident which follows in this report.)

FROSTBITE, WEATHER, INADEQUATE CLOTHING

Alaska, Mount McKinley

On May 5, 1985, the Vail-Denali Expedition, led by Ted Billings, was shuttling loads to a high cache at 5550 meters on the Cox Comb. About 1400, strong winds began blowing. Ted Billings and Paul Kemp, the first rope team, were about 60 meters above the fixed line. They cached their packs, one of which contained their CB radio, behind some rocks and descended to assist the other members still on the fixed line.