

Virtual Mentor

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ETHICS CASE

A Patient's Request for Steroids to Enhance Participation in Wilderness Sport and Adventure

Commentary by Christopher Madden, MD, Aaron D. Campbell, MD, MHS, and Jessica Pierce, PhD

Dr. Pritchard is an internist for a relatively small number of affluent families in a concierge-style practice. Much of his practice is centered on patients who engage in marathon running, alpine climbing, or endurance cycling. Mr. Jones is a successful entrepreneur who has recently entered the world of adventure sports. He has asked Dr. Pritchard for a pretravel evaluation for a trekking and climbing trip to Nepal.

Dr. Pritchard enters the examination room, and he and Mr. Jones exchange pleasantries. Dr. Pritchard asks Mr. Jones how he has been training for his trek.

“Well, I’ve tried to keep up on a regular training schedule—and I’m in pretty good shape for a guy my age—but I’ve just been too busy at work to get to the level I want to be at. The problem is that the guys I’m going with have been doing this for years. I’m worried I’ll fall behind while I’m getting used to the altitude.”

“Won’t they wait up for you?” Dr. Pritchard asks.

“They will, but I don’t want to slow down the pace,” Mr. Jones says. “We’ve wanted to do this trip for years, and I don’t want anything to hold us back. I was actually wondering if you could help me out in that department.”

“What do you mean?”

“Well, I know some doctors prescribe corticosteroids to help climbers acclimatize faster. It might shave time off the trek, and it would help me summit the peak we’re planning on climbing.”

“I’m not certain that’s a good thing to do. There is risk involved with misuse of these drugs,” Dr. Pritchard says.

“I’m not going to misuse it,” Mr. Jones rebuts. “I’m just trying to keep up with my buddies—we’re all in our 50s. This is just a chance for friends to get together and have fun.”

Commentary

Concierge medical practices typically charge a membership fee to patients in exchange for medical care and other services. It is not uncommon for concierge practices to be the subject of high expectations from consumers. In a purer world, membership fees would not influence the physician-patient relationship, but, in reality, concierge physicians may feel obligated to keep their patients, who are paying their own bills and memberships, content and coming back. This has tremendous potential to affect care decisions. Medical ethicists have long worried about the moral risk of a seller-consumer model to the physician-patient relationship, and in this case the concern seems particularly apt.

Is Mr. Jones paying for medical advice and treatment, or is he paying for a better chance of achieving his goals through what he mistakenly believes will be an effective pharmaceutical shortcut? If he is paying for performance enhancement, it is unethical for this physician to prescribe a treatment plan that he understands relatively little about and that may, in fact, offer no benefits to the patient and impose risk. Does Mr. Pritchard risk losing a high-paying, affluent patient in an already small practice that will affect his bottom line? Perhaps, but it is quite possible that Mr. Jones would appreciate a dose of reality and some high-quality advice; he might revise his plans for the expedition or at least shift his, and his team's, expectations.

The use of medication for the prevention and treatment of life-threatening altitude-related illness is very different, medically and morally, from the use of medication to enhance performance. In the first case, the physician is acting in the role of healer to promote the well-being of others. In the second, the physician is going beyond therapy into something quite different. Whether or not a physician is comfortable entering the realm of performance enhancement is a matter of personal convictions. But if a physician chooses to offer a prescription for performance enhancement that carries with it significant risk to the patient and to others, that physician ought to be very clear with him- or herself and with the patient about this intent.

Clearing up Mr. Jones's Misconceptions

Mr. Jones only recently entered the world of adventure sports, and he is already planning a significant trip to Nepal, presumably to attempt a high-altitude peak. Most successful mountaineers spend years preparing and acquiring skills for long high-altitude treks and summit attempts. Before leaving for a serious expedition, they have a high level of generalized fitness and will have employed specific training and conditioning strategies to prepare for altitude exposure. The commercialization of big summits such as Everest has opened the door for less experienced climbers and mountaineers to attempt more challenging and high-risk summits. The lack of knowhow combined in some cases with unrealistic goals invites cavalier thinking and the desire to take shortcuts. What is missing is experience, preparation, and education, the essential elements that lead to personal health, good decision making, and climber safety on high-altitude peaks.

Patients like Mr. Jones would benefit from counseling about appropriate preparation and about the risks that taking shortcuts poses not only to him but to all members of his climbing team. The fact that Mr. Jones perceives that physical fitness will help him at altitude is evidence of his inexperience. While fitness can certainly affect the climbing ability of an individual from a strength and stamina standpoint, it does not enhance acclimatization or prevent altitude illness. If Mr. Jones is relatively new to high-altitude mountaineering he may not be familiar with how he acclimatizes to altitude, which is highly individualized, impossible to predict, and, for all individuals, taxing above 8,000 feet [1].

Perhaps the most worrisome aspect of this case is Mr. Jones' request for steroids. Acetazolamide is the drug of choice for preventing acute mountain sickness (AMS) and high-altitude cerebral edema (HACE), depending on other risk factors [2]. It is a carbonic anhydrase inhibitor diuretic, and it is the only medication that facilitates acclimatization, but, it is important to point out, it does not enhance performance.

Preparticipation Evaluations and the Need for Experienced Physicians

It is not uncommon for trekking or guide agencies to require clearance or evaluation by medical professionals in an effort to minimize liability, but this is often little more than a legal formality. Additionally, there is lack of standardization regarding preparticipation evaluation (PPE) by physicians for wilderness sports and adventures. Clear guidelines exist for PPEs for more traditional or organized sports, but these do not apply well to events such as mountaineering in Nepal [3]. The lack of PPE guidelines specific to wilderness sports/adventures has the potential to leave clients unprepared for the rigors of mountain climbing and altitude travel and ultimately less safe.

Furthermore, the quality of such pre-adventure medical consultations can vary widely. Those seeking pretrekking, -climbing, or -mountaineering advice may not readily find physicians experienced in these realms. Furthermore, unless physicians are trained in sports medicine, they may not understand the principles of PPEs and therefore not be able to draw upon foundational PPE concepts to adapt them for wilderness sports. Physicians who have little or no experience with mountaineering may underestimate its risks. They may be unfamiliar with the extensive literature on the effects of various drug interventions such as corticosteroids on an athlete at altitude, and they may have only superficial understanding of how underlying health conditions such as obesity, hypertension, coronary artery disease, congenital heart conditions, lung disease, and diabetes interact with the physical demands of high-altitude physiology and the use of pharmaceuticals [4]. They are also unlikely to go over points of travel medicine and pretrip planning with the prospective traveler or adventurer.

The goals of such evaluations are not to disqualify, but to assess person's preparedness and counsel him or her on risk reduction based on individual health and sport-specific risk. If a pre-adventure consultation is not performed thoroughly by a

skilled and knowledgeable physician, in this case with training in altitude medicine and mountaineering, then medical clearance is inadequate.

Recommendations

A clinician experienced in altitude medicine would likely recommend typical preventive acclimatization measures, in addition to sport-specific personal training and conditioning, and might prescribe medication for use in emergencies. Such a clinician would also counsel Mr. Jones about such matters as: proper physical training and conditioning, appropriate trek planning and preparation, realistic goal setting, the need for objective decision making, the distinction between appropriate use of the correct medication to facilitate acclimatization for prevention of illness and performance enhancement, and the need for further evidence-based research before making final recommendations. Another thing to point out is that Mr. Jones' "not wanting anything to hold us back" represents a dangerous mindset on summit attempts like this, where many elements are outside of individual control and objective reasoning is vitally important for safety.

Dr. Pritchard should resolve Mr. Jones' misperception about the use of steroids for acclimatization and performance enhancement. He might also caution Mr. Jones about participating in an expedition with plans for an ascent profile to altitude designed for the most fit individuals in the group rather than the least fit individuals; such plans put the entire team at risk for injury, illness, or need for rescue. Mr. Jones should leave the office not with a prescription in hand and a false sense of security, but with strong advice against ignoring well-established acclimatization principles to achieve a fast ascent.

References

1. Regardless of fitness level or an individual's adaptive response to altitude, all individuals exposed to altitudes above 8,000 feet (2,500 meters) experience the deleterious effects of progressive gains in altitude; lower barometric pressure leads to decreased exercise tolerance and potential for altitude illness if attempted too quickly. Moreover, above extremely high altitudes of 24,000 feet (7,500 meters), known to mountaineers as the "death zone," complete acclimatization is essentially improbable, and, while the atmospheric concentration of oxygen remains at 21 percent, its availability is much less than normal. On the summit of Everest at 29,029 feet (8,848 meters) there is only approximately one-third the normal amount of oxygen available for physiologic consumption. Schoene RB. Training for wilderness adventure. In: Auerbach P, ed. *Wilderness Medicine*. 6th ed. Philadelphia, PA: Elsevier; 2012.
2. Luks AM. WMS guidelines for prevention and treatment of altitude illness. *Wilderness Environmental Med*. 2010;21(2):146-155.
3. Bernhardt D, Roberts W, eds; American Academy of Family Physicians, American Academy of Pediatrics, American College of Sports Medicine, American Medical Society for Sports Medicine, American Orthopaedic Society for Sports Medicine, American Osteopathic Academy of Sports

Medicine. *PPE Preparticipation Physical Evaluation*. Elk Grove Village, IL: American Academy of Pediatrics; 2014.

4. Inexperienced physicians might not know that dexamethasone plays an integral role in the treatment of acute mountain sickness (AMS) and high-altitude cerebral edema (HACE) in susceptible individuals, but it is not the first-line medication for prevention and it does not facilitate acclimatization. In rare situations such as when military recruits or search and rescue (SAR) teams need to advance rapidly to high altitudes, dexamethasone can be used in conjunction with acetazolamide for prevention of AMS and HACE. The drug of choice for prevention and treatment of high-altitude pulmonary edema (HAPE) in susceptible individuals is nifedipine, a calcium channel blocker, not dexamethasone, and not acetazolamide. None of these medications, moreover, are recommended for performance enhancement.

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