OCCASIONAL PIECES

Extreme altitude transient aphasia

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Severe mountain sickness, cerebral oedema, or ischaemic infarcts may occur when humans ascend to high altitude. However, neurological symptoms can occasionally be atypical. Recently, we studied a highly experienced climber who had suffered difficulties in expressing himself verbally, emitting incomprehensible sounds during a strenuous ascent to 8000 m in the Himalayas. The speech disorder, which was not associated with other neurological impairments, disappeared following a short rest. Cranial magnetic resonance imaging, performed 40 days later, showed small high intensity signals in the posterior lobes. To our knowledge, the nearest neurological episode to this case is a self report by Shipton¹ in 1943.

Cerebral blood flow is highly sensitive to changes in carbon dioxide tension. CO₂ inhalation increases brain perfusion quickly reversing many high-altitude neurologic disturbances. Hackett et al.² reported six cases of altitude cortical blindness who showed excellent response to CO₂ administration. A severe fall in the arterial Pco₂ (at rest approximately 10 mm Hg at 8000 m) due to intense pulmonary gas exchange during fast ascents to extreme altitude can result in non-uniform vasoconstriction and tissue distribution. This mechanism, together with an increased blood

viscosity and coagulability in a high mountain environment, would increase the hypoxic insult, especially in small vessel territories of the brain.

Although the precise significance and future implications of these magnetic resonance findings are not clear, the presentation and clinical evolution of this case strongly suggest a selective vasospasm of brain speech areas. Nevertheless, these imaging findings may be related to cumulative cerebral damage, as we have observed in a large number of climbers after repeated exposure to extreme altitude.³ Indeed, the increasing popularity of attempting to conquer the world's highest summits without supplementary oxygen would lead us to conjecture that such autolimited neurological episodes occur more frequently than is reported in the mountain medicine literature.

- 1 Shipton EE. *Upon that mountain*. London: Hodder and Stoughton, 1943:129.
- 2 Hackett P, Hollingsmead K, Roach R, Schoene R, Mills W. Cortical blindness in high altitude climbers and trekkers. A report of six cases. In: Sutton J, Houston C, Coates G, eds. *Hypoxia and cold*. New York: Praeger Press, 1987: 536.
- 3 Garrido E, Segura R, Capdevila A, Pujol J, Javierre C, Ventura JL. Are Himalayan Sherpas better protected against brain damage associated with extreme altitude climbs? *Clin Sci* 1996;90:81-5.

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"I was that child"

For several years I was involved in swimming, a sport that is vulnerable to those who wish to abuse children. On a typical training day parents take their children to the pool early in the morning. The swimmer strips, almost naked, and spends up to two hours in the water, supervised usually by only one adult. The whole process is repeated again that evening. The coach may see much more of the swimmer than the swimmer's parent. It is easy to understand how a swimmer could be dominated by their coach.

My own memories of these events are all too clear. My coach never allowed us to change in the changing rooms, insisting that we "de-robe" on the side of the pool, whether or not we had our swimming trunks on before

arriving at the pool. This was quite humiliating for those girls who had forgotten to put their bathing costumes on at home.

When my coach needed to give me a "ticking off", he used never to approach me when I was fully clothed. He would wait until I was in my swimming trunks about to enter the water. Then and only then would he approach me. In this situation, the psychological advantages of clothes are immense. And the psychological abuse didn't end there. If things were going poorly in competition or if I had done something to annoy my coach, I was purposely ignored for days on end. I remember I once acted in direct opposition to my coach and he ignored me for three months! To hurt me fur-

Anonymous