LETTER

Genes and quadrupedal locomotion in humans

Ozcelik *et al*. (1) argue that mutations in VLDLR "cause quadrupedal locomotion in humans." We have studied two of the families described in their paper, family A (2) and family B (3, 4). We have also investigated a family in Iraq in which four adult siblings habitually walk on all fours (ref. 5 and unpublished observations).

If, as suggested, the condition is caused by a mutation that "leads to abnormal formation of the structures that are critical for gait," we would expect quadrupedalism to occur when—but only when—this specific mutation is present. However, it turns out that the Iraqi family and three of the four Turkish families each carry a different mutation. Moreover, in Turkish family B, one individual with the same homozygous mutation as his affected siblings is not quadrupedal; and, in Hutterite families in North America, none of those with the same homozygous mutation as the affected individuals in families A and D are quadrupedal.

In light of this, our conclusions are different from those of Ozcelik *et al*. We see quadrupedal locomotion as an adaptive—and undoubtedly effective—compensation for problems with balance caused by congenital cerebellar hypoplasia. We believe that the fact that this gait has not been "corrected" in the families under study must be attributed to the local cultural environment. As was proved with family B, during the making of a TV documentary, the provision of a walker could indeed make all the difference (see ref. 6).

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