From the perspective of maternal care, it is important to know whether fetal growth has an impact on mental development. Our results support an association between birth weight and cognitive function in adult life, but data from other populations with careful control for confounding factors are needed.

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Conflict of interest: None.

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Association between raised body temperature and acute mountain sickness: cross sectional study

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Fever has long been associated with acute mountain sickness, and the physiologist Angelo Mosso reported that Dr Jacottet, who died in 1891 of presumed high altitude pulmonary oedema on Mont Blanc, had a body temperature of 38.3°C shortly before he died.[1] We studied the association between body temperature and acute mountain sickness, and body temperature and high altitude pulmonary oedema.

Subjects, methods, and results

We studied 60 climbers (mean age 39 (range 20-64) years) at 490 m (Zurich, Switzerland), after rapid ascent within 22 hours to a mountain hut at 4559 m above sea level, and during the subsequent stay there for 72 hours. We examined the climbers at low altitude, two to six hours after arrival at the hut (4 pm to 8 pm; day 1), and each morning (6 am to 9 am) during the next three days (days 2-4). The ethics committee of the University Hospital, Zurich, approved the study.

We assessed symptoms and signs of acute mountain sickness in a clinical interview and scored them as described previously.[2] We classified climbers as healthy or as having mild acute mountain sickness (score ≤ 3) or as having severe acute mountain sickness (4-13). Climbers with at least three of the following symptoms and signs were considered to have high altitude cerebral oedema: headache resistant to paracetamol, vomiting, dizziness, and ataxia. We measured axillary body temperatures in an ambient temperature 18-24˚C. Blood gas pressures were sampled from the radial artery daily, and posteroanterior chest radiography was done at low altitude and on days 2-4. The chest radiographs were analysed as previously described.[3]

To compare the body temperatures in climbers with and without severe acute mountain sickness, we used the value that was associated with the climber's highest score at high altitude. In climbers with cerebral oedema or pulmonary oedema, or both, we recorded the temperature measured when these conditions were diagnosed.

Because of pulmonary oedema or cerebral oedema, or both, 3/60 climbers had to be evacuated by helicopter on day 2, seven on day 3, and five on day 4. Pulmonary oedema was diagnosed by chest radiography in 22 climbers.

Climbers' body temperatures and scores for acute mountain sickness are plotted in figure 1. The mean (SD) increase in body temperature between low and high altitude was 0.5°C (0.6) in climbers with a score ≤ 3, 1.2°C (0.6) in those with a score >3, and 1.7°C (0.5) in those with cerebral oedema (one factor analysis of variance, $P<0.001$). The mean body temperature was 37.9°C in climbers with cerebral oedema, compared with 36.9°C in climbers with a score ≤ 3 (mean difference 1.0°C (95% confidence interval 0.5 to 1.5)), and 37.7°C in climbers with a score >3 and pulmonary oedema, compared with 37.2°C in those without pulmonary oedema (0.4°C (0.2 to 0.7); Mann-Whitney U test, $P=0.005$). The correlation coefficients between the body temperature and arterial oxygen pressure as well as between the body temperature and the radiographic assessment were -0.52 ($P<0.001$) and 0.42 ($P<0.001$) respectively (simple regression analysis).

Comment

We show a strong relation between body temperature, hypoxaemia, and the severity of acute mountain sickness in 60 climbers studied at low and high altitude. The correlations between the body temperature, the score for acute mountain sickness, and the arterial oxygen pressure suggest that a rise in temperature after rapid ascent to high altitude is a sign of acute mountain sickness and is associated with the severity of hypoxaemia.

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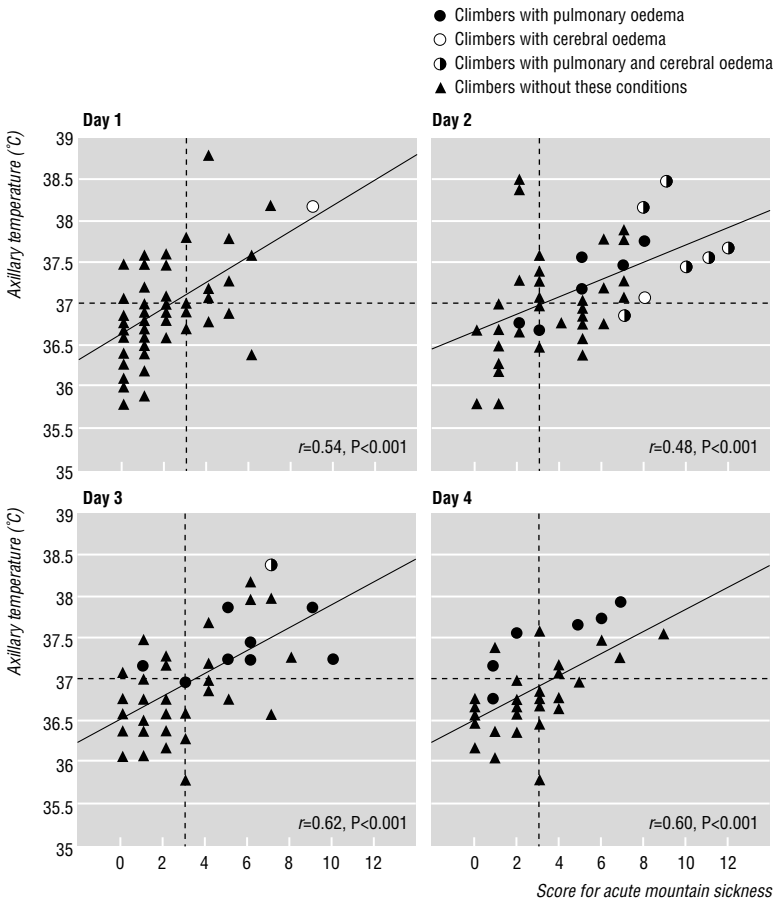

Fig 1 Body temperatures and scores for mountain sickness at high altitude on day 1 (n=60), day 2 (n=57), day 3 (n=50), and day 4 (n=44). Some climbers had same body temperature and same score. Oblique line is regression line

Changes in the local vasomotor tone and exercise may have influenced our temperature measurements on the first day but not on subsequent days.

The aetiology of raised body temperature in acute mountain sickness remains unclear. Raised concentrations of thromboxane B_2 and leukotriene B_4, as well as C5a have been measured in the bronchoalveolar lavage fluid of subjects with high altitude pulmonary oedema.[4] These findings, together with recent data from our group, showing a significant increase of C reactive protein and plasma concentrations of interleukin 6 and interleukin 1 in climbers with high altitude pulmonary oedema,[5] suggest that such pulmonary oedema could be a systemic inflammatory disease. The findings here suggest that such a reaction could also occur in acute mountain sickness.

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Age related dietary exposure to meat products from British dietary surveys of teenagers and adults in the 1980s and 1990s

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Nineteen cases of new variant Creutzfeldt-Jakob disease have been diagnosed in the United Kingdom and one in France.[1] Compared with sporadic Creutzfeldt-Jakob disease, the new variant is characterised by different neuropathology, methionine homozygosity, young age, and a longer interval from onset of clinical symptoms to death.[2] Importantly, the molecular marker for bovine spongiform encephalopathy is present in people with new variant Creutzfeldt-Jakob disease, which makes dietary exposure to the agent causing bovine spongiform encephalopathy the likely cause of their illness.[3] Which foods contained the infective agent has not been established, but the consumption of mechanically recovered meat is a particular concern. Mechanically recovered meat is used in processed meat products such as beefburgers and pies but under increasingly strict regulations—for example, since May 1996 it can come only from cattle with no more than two permanent incisors erupted (under 30 months old); since May 1997 the use of the vertebral column in such meat is prohibited; and premises producing such meat must be registered. The Ministry of Agriculture, Fisheries, and Food has commissioned an audit of which bovine (and ovine) tissues have gone into which foods and when (in periods of five years).

Because of the younger age at onset of new variant Creutzfeldt-Jakob disease age trends in the consumption of meat products that are likely to have contained