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 B₂ and leukotriene B₄, 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

Table 1 Consumption of meat products by age in two British dietary surveys. Values are percentages of subjects consuming product in seven day period (with mean consumption in grams over that period in parentheses) in first survey and percentages of respondents consuming product once a week or more in second survey

Age group (years)	Burgers*	Sausages	Meat pies and pastries†	Other meat products‡	Beef§
Dietary and nutrition survey of British adults, 1986-7⁴					
16-24	45 (218)	54 (162)	61 (316)	39 (254)	72 (323)
25-34	35 (185)	52 (147)	54 (246)	46 (188)	73 (404)
35-49	26 (133)	55 (131)	52 (240)	44 (202)	78 (345)
50-64	13 (120)	49 (137)	49 (223)	50 (178)	77 (294)
EPIC food frequency questionnaire, Norfolk respondents, 1993-5					
45-54	27	71	54	37	88
55-64	15	70	53	41	87
65-74	12	72	52	43	89

EPIC=European prospective investigation of cancer.

*Burgers and kebabs in dietary and nutrition survey of British adults,⁴ beefburgers in EPIC food frequency questionnaire.

†Savoury pies—for example, meat pie, pork pie, pasties, steak and kidney pie, sausage rolls—in EPIC food frequency questionnaire.

‡Corned beef, Spam, luncheon meat in EPIC food frequency questionnaire.

§Beef and veal in dietary and nutrition survey of British adults,⁴ and beef in the form of roast beef, steak, mince, stew, or casserole in EPIC food frequency questionnaire.

mechanically recovered meat are relevant. We reviewed British dietary surveys of teenagers and adults conducted in the 1980s and 1990s to identify whether consumption of certain foods—in particular, those likely to contain mechanically recovered meat—is strongly related to age.

Subjects, methods, and results

The dietary and nutrition survey of British adults recruited a nationally representative sample of adults aged 16 to 64 living in private households in October 1986 to August 1987.⁴ A seven day weighed dietary record was obtained from 2197 people, 70% of those eligible to take part. Table 1 shows by age group the percentage who ate certain foods and the mean quantity consumed by them during the seven day recording period. Each age group relates to roughly 400 respondents.

There was a striking age gradient in the percentage who ate burgers and kebabs, from 45% of those aged 16-24 to only 13% of those aged 50-64. The quantities consumed by those who ate these products also decreased noticeably with age (standard errors were not reported, however). Consumption of meat pies and pastries was also higher in the youngest age group, but the age gradient in consumption of other meat products points, if anything, to higher consumption at older ages.

The European prospective investigation of cancer (EPIC), a major collaborative study of diet in relation to cancer incidence and other end points, has an East Anglian component. By mid-1996, 19 000 men and women in Norfolk aged 45-74 had been recruited (42% of those invited). The food frequency questionnaire to assess initial dietary habits asked for information about participants' average consumption of different meats and meat products in the previous

year. Table 1 shows the percentage in each age group who, on average, consumed certain meats once a week or more. Each age group is represented by over 4000 respondents; response rate did not differ by age group.

Other representative surveys, whose details are available from us, have published little information on age related consumption of particular meat products.⁵

Comment

Data from the two surveys in the mid-1980s and the 1990s show strikingly that consumption of beefburgers declines with age. The reported percentages of people eating burgers were similar in the two studies, but consumption of sausages and beef was higher in the 1990s by the Norfolk participants.

Other age related trends, or the lack of them, in the consumption of meat products containing mechanically recovered meat may be discernible from the detailed records of food intake kept by participants in prospective dietary studies. Improved categorisation of the data—for example, to differentiate pork from steak and kidney pies and types of sausage and burger—would be needed. If additional analyses of other surveys by age group could be encouraged a brief workshop might be convened to pool the findings.

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