approach.[12] Recent data also show that the use of broad spectrum intrapartum antibiotics might increase the incidence of necrotising enterocolitis.[13] Guidelines should therefore seek to minimise the overall number of women exposed. This study provides data that will aid the development of such guidelines in the United Kingdom.

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Role of endogenous oestrogen in aetiology of coronary heart disease: analysis of age related trends in coronary heart disease and breast cancer in England and Wales and Japan

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The sex difference in mortality from coronary heart disease decreases with increasing age, suggesting a protective effect of oestrogen in premenopausal women. This decrease is, however, the result of a deceleration in death rates in men, with no change in rates in women around the age of menopause.[1] The age specific rate of breast cancer—a condition associated with endogenous oestrogen—does show a change around the age of menopause among women in the United States.[2] The relatively low rates of coronary heart disease in premenopausal women may make it difficult to detect an effect of the menopause.[3] Rates of breast cancer among Japanese women are low. If low rates of coronary heart disease around the time of the menopause explain the lack of an effect of the menopause on age related trends then no effect of the menopause on breast cancer trends among Japanese women might be expected.

Methods and results

We obtained data on age specific mortality from coronary heart disease (ICD-9 (international classification of diseases, 9th revision): 410-414) for women and men and from breast cancer (ICD-9: 174) for women in England and Wales from the Office for National Statistics and in Japan from the World Health Organization. We calculated five year aggregate rates for each country (1994-8 for England and Wales and 1993-7 for Japan) and plotted them on a semilogarithmic scale.

Coronary heart disease mortality in women from both countries increased with age, and in both countries the death rate in men decelerated at older ages, reducing the magnitude of the sex difference (figure). We found no inflection in age specific mortality from coronary heart disease in women around the age of menopause in either England and Wales or Japan. In contrast, mortality from breast cancer began to decelerate around the time of the menopause in both groups.

Comment

Mortality from breast cancer in Japanese women is about half that from coronary heart disease in women in England and Wales at ages 45-54; it is thus unlikely that the low mortality from coronary heart disease makes detection of a menopause effect difficult. The inflection in breast cancer mortality occurs over a narrow age range, suggesting that if effects of menopausal oestrogen on coronary heart disease occurred they too should operate over a similar range and be observable. However, coronary heart disease is associated with sev-

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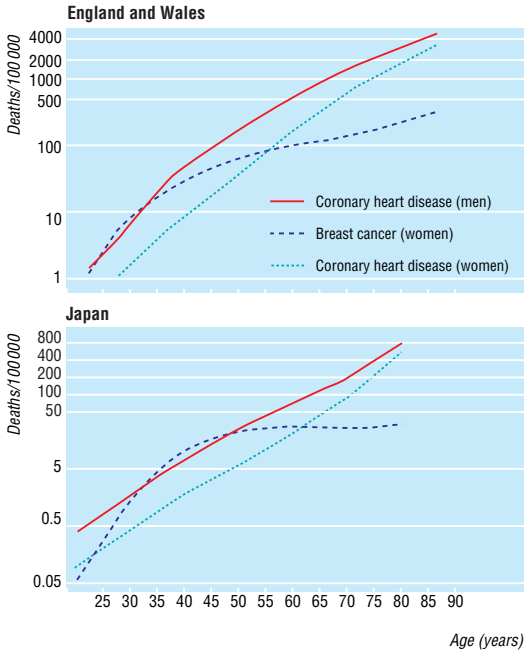

Age specific trends in mortality from coronary heart disease in men and women and from breast cancer in women. Aggregated data for England and Wales (top) and Japan (bottom)

eral environmental risk factors, and if the effect of oestrogen on risk of coronary heart disease is small relative to other risk factors then any effect of the menopause may be masked.

Witteman et al argue that age related trends in coronary heart disease mortality are not inconsistent with an effect of the menopause.[4] They used simulation models based on levels of risk of coronary heart disease in men to estimate age related trends in "women who never experience a menopause."[4] Such analyses are unrealistic and unhelpful.

Work on the aetiology of coronary heart disease in women has been dominated by the idea that oestrogen plays an important part and is responsible for the sex difference at younger ages. The implications of this are that higher rates of coronary heart disease in men are seen as inevitable and that postmenopausal hormone replacement therapy has become the mainstay of coronary heart disease prevention in women. We conclude that environmental factors are the most important determinants of coronary heart disease in women and men and of the difference in coronary heart disease rates between women and men.[5]

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Mortality from liver disease in the West Midlands, 1993-2000: observational study

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Advanced liver failure carries a poor prognosis, and its prevalence may be reflected by mortality statistics in the form of death certifications for liver disease. In the United Kingdom mortality from cirrhosis and other liver diseases increased slowly from the 1970s to the early 1990s.[1] We aimed to ascertain the current mortality from liver disease in the West Midlands region of the United Kingdom.

Methods and results

The study was set in three adjacent metropolitan boroughs in the West Midlands with a total population of 837 000. Around 8.4% of residents are of south Asian origin (Indian, Pakistani, or Bangladeshi; 1991 census). Deaths from liver disease were identified from public health mortality files supplied by the Office for National Statistics, which we searched using ICD-9 (international classification of diseases, 9th revision) reference codes 570-573, and from files supplied by the registrar of the local health authority. South Asian origin and religion were identified from subjects' names. In cases of deaths from liver disease of unspecified cause (ICD 571.5 and related codes) we analysed case notes to search for underlying causative factors.

Crude mortality from primary liver disease increased from 6.0 per 100 000 population in 1993 to 12.7/100 000 in 2000 (figure). The increase was almost exclusively the result of alcoholic liver disease (ICD codes 571.0-571.3), which increased almost threefold from 2.8/100 000 in 1993 to 8.0/100 000 in 2000 (regression coefficient +0.89/100 000/year, 95% confidence interval 0.57 to 1.21), although it seemed to have stabilised from 1998 onwards. Rates of increase in deaths from alcoholic liver disease were similar for white men, white women, and Asian men. Asian men