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## The rising incidence of male breast cancer

Valerie Speirs · Abeer M. Shaaban

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Although breast cancer rates are declining in Western societies, quoted figures are restricted to female breast cancer. Recently in this journal, Stang and Thomssen reversed this trend by analysing male breast cancer data from the SEER Program of the National Cancer Institute, which showed an increased incidence in male breast cancer of 1.0 per 100,000 in the late 1970s to around 1.2 per 100,000 at the start of this decade [1].

In the UK around 350 cases of male breast cancer are diagnosed annually [2]. To determine if this figure is changing, we reviewed data obtained from members of the United Kingdom Association of Cancer Registries (UKACR). In most cases data was provided directly from UKACR members both as absolute numbers (1981–2004) and European Age Standardised Rates (EASR; 1991–2004). As shown in Fig. 1, male breast cancer incidence is increasing in the UK, paralleling US data which shows a concordant increase over a similar time period [1, 3]. This begs the question of why male rates are rising.

Age is the single biggest risk factor for male breast cancer. We are an ageing population and increased male breast cancer may well parallel increased longevity. However this increase is also reflected in ASR rates, which accounts for this. Nowadays, men are more health conscious and with increased public awareness of breast cancer in general e.g. through pink ribbon campaigns, they may be much more likely to seek medical attention for

breast symptoms than ever before, which could contribute to increased diagnosis.

Men who have been repeatedly exposed to radiation from a young age and over a long time period are at greater risk of developing breast cancer [4]. One might expect that males living within the fallout zone from the 1986 Chernobyl nuclear disaster (which included the UK) may be at greater risk. Although reports are sketchy, an article published in Croatia suggests that post-Chernobyl, the ratio of male breast cancer increased from 1:139 to 1:79 [5].

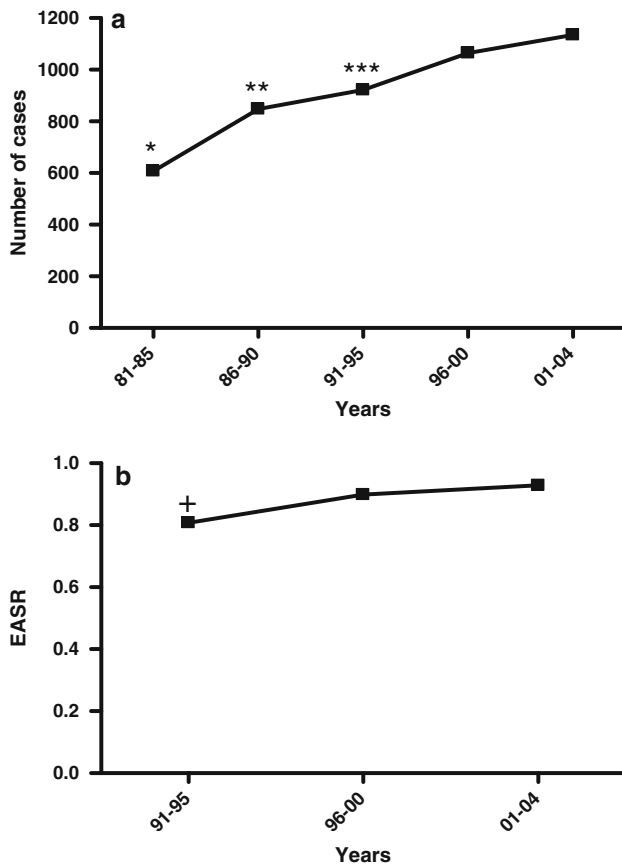
Rising levels of obesity resulting from physical inactivity and poor diet is a serious public health issue in both the US and UK and may be contributory to increasing male breast cancer. High estrogen levels are linked to breast cancer and local estrogen biosynthesis by breast tissue adipocytes may be an important factor in obese individuals. Increased use of pesticides, many of which are weakly estrogenic, by the agricultural industry and their subsequent introduction into the food chain could also add to rising trends.

Increased alcohol intake has been associated with male breast cancer [6] and this is probably indirectly linked to alcohol-induced liver damage and subsequent hyperestrogenism. Liver cirrhosis is associated with increased estrogen levels which could increase breast cancer risk. There are suggestions that this risk is higher when cirrhotic patients live longer [7]. The so-called ‘binge drinking’ culture that has developed in recent years, particularly in the UK could also be a casual factor.

Although male breast cancer is rare, for the patient a diagnosis is often unexpected but it should be regarded as no less important than other ‘male’ illnesses. Its rarity precludes randomised clinical trials but its rising trend, which seems likely to continue, suggests coordinated multi-centre approaches are necessary to accumulate

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**Fig. 1** Breast cancer incidence in males in the UK according to data from UKACR. **(a)** Total numbers from 1981 to 2004. Data not available from: \* three, \*\* two and \*\*\* one region. **(b)** European age-standardised incidence rates per 100,000 person-years at risk from 1991 to 2004 from nine UKACRs and data not available from one region (+)

sufficient numbers for meaningful study into the biology of male breast cancer. Ultimately this may help clinicians better understand the disease and thus improve outcome for men with breast cancer.

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