

arm corresponding to the pain. A tender lymph node could now be palpated in the axilla. After one day of oral penicillin the signs of inflammation in the upper arm subsided and on day two so did signs below the elbow. We have been unable to find any previous description of acute lymphangitis developing from the centre to periphery. The mechanism may have been one of an infectious process being embattled in the axillary lymph node until finally the lymph duct was obstructed, giving rise to a retrograde inflammatory process, possibly aseptic.

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Natural history of breast cancer

SIR,—The “new insights” into the natural history of breast cancer that Dr Tabár and colleagues offer (Feb 15, p 412) are merely confirmation of old facts and thus do not change the arguments about the progressive versus the systemic nature of breast cancer.

Survival has long been known to correlate with tumour size.¹ The crucial questions are, how much is this a result of the effect of lead-time and natural speed and aggressiveness of tumour growth, and how much a result of early medical intervention? Early detection seems to halt disease progression to some extent. This benefit, however, is so small that the practical value of screening with its inherent drawbacks remains questionable.^{2,3} Tabár et al fail to address the importance of lead-time and length bias as a major confounder of their correlations. Therefore, their observation that advancing the time of diagnosis changed the grade distribution is of little value. Similarly, the ability of mammographic screening to detect a large proportion of node-negative tumours less than 15 mm with a very good prognosis cannot be regarded as a benefit per se.

The documented excellent prognosis of small node-negative tumours is mainly the result of lead-time and overdiagnosis effect. Since modern mammography screening increases the incidence of overt breast cancer by 25–50%, it is no surprise that many (small) cancers now have very good prognoses. Many have a good prognosis merely because the histological diagnosis of malignant disease can be equivocal and sometimes false in small breast tumours detected by screening, and a large proportion of such cancers, according to necropsy findings, may remain clinically silent if untouched.^{2,4} Recent findings suggest that cancers detected at screening had low malignant potential even after adjustment for tumour size (ie, a rough correction of the lead-time and length bias),⁵ possibly because of overdiagnosis of clinically benign cancer. In practice, such overdiagnosis is so important that diagnosis of an additional cancer through early detection (of disease that would not have been detected clinically) is about ten times as likely to occur as a prevented breast cancer death.² In fact, the striking increase of breast cancer screening sensitivity in the modern trials has not resulted in a greater cure rate.²

Tabár et al make the fallacious assumption that good long-term survival associated with small tumours is not consistent with the notion of systemic disease. Why should breast cancer, acting as a systemic disease, necessarily have a poorer prognosis than disease that progresses locally? This issue should be addressed by an analysis of the differential mortality effects of screening according to tumour size. In fact, from the results of the HIP trial,⁶ early detection seems to provide more potential for cure in advanced node-positive cancers rather than in small cancers. This suggests that small cancers detected at screening have a good prognosis despite their systemic nature. In fact, microscopic cancer foci were found in bone marrow in about a quarter of patients with small tumours.⁷

The (small) effect of early detection on mortality² might be due to the fact that many breast cancers are systemic from inception (and outcome cannot be altered by early local treatment), and that many are clinically benign (and early local treatment does not change the good prognosis). If we assume that the primary tumour is the most obvious “metastasis” of systemic disease, then, as Tabár et al say, a statistically significant relation between tumour size and overt metastatic spread is what one would expect. The fact that breast cancer, to some extent, is also a locally progressive disease and that

axillary dissemination can be prevented by early detection in some cases has been proven by the comparison of screening and control groups in randomised trials. The whole issue is not whether breast cancer is either systemic or progressive: it can be systemic from its inception in many cases and locally progressive in some.

We should not overlook the finding that breast cancer mortality has remained unchanged for decades despite huge efforts to improve early detection and local treatment. The initially promising results of the Swedish trial have been tempered by subsequent trials^{8,9} and by more practical appraisals of the benefit and burden of breast cancer screening.^{2,10}

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SIR,—In their effort to defend breast screening programmes, Dr Tabár and colleagues introduce confusion about the notion of viable metastases and seem to overlook an alternative explanation of their findings.

They first say that the probability of viable metastases is small for many of the cancers diagnosed in the course of a screening programme, and, later, that almost 40% of invasive cancers are less than 15 mm in diameter and node negative. Taken together, these findings mean that many of the cancers discovered at screening do not produce viable metastases, but nearly half those that will do so will have produced metastases when still under 15 mm in size. How can this information be applied to Tabár and colleagues' data?

In their table, we note that the distribution of cancer size is shifted towards the lower values in the screened women compared with controls, and that no clinical metastases were detected in the control group after screening. Tabár and colleagues conclude that this is a positive effect of screening. But an equally plausible interpretation is that the cancers destined to produce viable metastases could have done so early in their growth, as shown by the excess of metastases in the control period, and only cancers with slower growth and more favourable prognosis remained to be discovered in the next screening period.¹ Thus, length-time bias² invalidates Tabár and colleagues' conclusion that early diagnosis leads to a substantial reduction in relative breast cancer mortality. As for the absolute risk reduction, women and health care purchasers should be made aware that this can range from 0.02% to 0.0001%.³

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SIR,—Dr Tabár and colleagues emphasise the importance of tumour size as a prognostic variable in breast cancer. In node-negative disease there is no doubt that survival is strongly influenced by both size and flow-cytometric indices of proliferative activity.¹ We have plotted the survival of 191 patients with node-negative breast cancer and tumours of less than 1 cm in