Specialist surgeons and survival in breast cancer

Breast cancer is a medical, not a surgical, disease

EDITOR,—There have now been several studies of comparative survival of women with breast cancer under the care of different surgeons. Charles R Gillis and David J Hole's unique and revealing analysis in west Scotland is a further indictment of the haphazard organisation of NHS cancer services.¹ If the findings of this study are extrapolated nationally, then nearly 11 000 women died unnecessarily during the 1980s—surely a major scandal of neglect and apathy by successive health ministers.

But the problem is not one of surgical skill; it is a problem of service organisation. There is no evidence whatsoever that the type or quality of surgery has an impact on survival. The most likely reason for the variation in outcome is the failure to refer for adjuvant systemic chemotherapy or tamoxifen. Breast cancer kills because of metastasis. Specialist surgeons work closely with colleagues in radiotherapy and medical oncology who provide essential medical input. The evidence for this comes from Gillis and Hole's observation that the greatest survival differences were found in the patient subgroups for whom adjuvant therapy is known to have the most benefit. There are clear data suggesting wide variation in postoperative medical treatments offered to patients,² and indeed an unpublished investigation by the BBC *Panorama* team (BBC, personal communication) showed wide practice variation across Britain.

Unfortunately purchasers who do not have specialist knowledge are confused and are beginning to use minimum numbers of new patients seen by

a surgeon as a surrogate marker for outcome. What is needed is a well organised cancer unit in every sizeable general hospital, with strong links to a major cancer centre. There will be dramatic new developments in cancer prevention, diagnosis, and treatment over the next decade. If these are to be disseminated rapidly, a network is required now. We know that British cancer survival statistics lag far behind those of other European countries, not just in breast cancer but across the board.³ The recent report of the health department's Expert Advisory Group on Cancer provides the framework for a way forward.⁴ The time for endless discussion is over—let's see some action.

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- 1 Gillis CR, Hole DJ. Survival outcome of care by specialist surgeons in breast cancer: a study of 3786 patients in the west of Scotland. *BMJ* 1996;312:145-8. (20 January.)
- 2 Wolfe C, Barton J, Bourne H, Richards M. Variations in the incidence and management of breast cancer in women under 50 years of age. *J Epidemiol Community Health* 1993;47:400.
- 3 Berrino F, Sant M, Verdecchia A, et al. *Survival of cancer patients in Europe: the EUROcare study*. Lyons: International Agency for Research on Cancer, 1995. (IARC publication No 132.)
- 4 Department of Health. *A policy framework for commissioning cancer services*. London: DOH, 1995.

Large differences in survival are not explained

EDITOR,—As a specialist breast cancer surgeon it is in my enlightened self interest to accept the findings of Charles R Gillis and David J Hole¹; at the same time, as a clinical scientist I cannot allow their conclusions to go unchallenged. From the world overview of trials we now know with statistical confidence that variations in local treatment cannot be associated with any of the differences in survival described in this article.² Only the use of adjuvant systemic therapy could contribute to differences in survival outcome, and in absolute terms these differences are relatively modest and could not account for a 9% absolute difference in five year survival, nor for some of the quite extraordinary differences described in any of the subsets, such as the 19% difference in five year survival for patients with two positive nodes.

Let us just concentrate on the age group 50-64, in which an 11% difference in five year survival is described by Gillis and Hole. This is the age group in which adjuvant tamoxifen is probably most effective. If none of the patients treated by the generalists received tamoxifen and all the patients treated by the specialists received tamoxifen, then from the overview of the trials the best that could be expected would be 4% difference.² I therefore cannot accept that the differences in treatment can contribute to the major differences in survival described. Like the authors I am somewhat at a loss to explain these variations, but they might be due to the "Will Rogers phenomenon"—the more accurately you stage a patient the more likely you are to deem them as inoperable or metastatic, and therefore stage for stage the survival will improve in the more accurately staged patients.

I still think it is in the interests of women to seek specialist care, which is likely to be associated with greater psychosocial support,

improved chances of local control of the disease, greater satisfaction with the organisation of the service, an opportunity to contribute to research, and overall an improved quality of life. But please don't let us kid ourselves that differences in treatment could contribute to such huge short term differences in survival.

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- 1 Gillis CR, Hole DJ. Survival outcome of care by specialist surgeons in breast cancer: a study of 3786 patients in the west of Scotland. *BMJ* 1996;312:145-8. (20 January.)
- 2 Early Breast Cancer Trialists Group. Systemic treatment of early breast cancer by hormonal, cytotoxic or immune therapy. 133 randomised trials involving 31,000 recurrences and 24,000 deaths among 75,000 women. *Lancet* 1992;339:1-15,71-85.

A multidisciplinary approach is needed

EDITOR,—Charles R Gillis and David J Hole provide support for the management of patients with breast cancer by surgeons with a specialist interest in breast disease.¹ The number of centres advertising as having specialist breast surgeons has proliferated, but it is not clear whether all these units fulfil the definition of a specialist unit as defined by Gillis and Hole and by the British Breast Group.² As pointed out in the *BMJ* paper and confirmed by the Yorkshire group, "the benefit associated with care provided by specialists may be due not only to the surgery but to the use of additional therapies."³

It is now accepted that optimal treatment for patients with breast cancer requires a multidisciplinary approach, and it is our contention that before any decision is taken on treatment, the patient should be seen by or discussed with the whole interdisciplinary team—surgeon, radiologist, pathologist, medical oncologist, radiation oncologist, and specialist breast care nurse. This may run counter to the proposals in the Calman report, which seems to suggest that patients with common cancers are managed initially by surgeons, with oncologists becoming involved at a later stage. The reality is that not all patients who have a wide excision are suitable for radiotherapy and some patients with larger, operable tumours or locally advanced disease may be best treated by primary systemic treatment rather than initial surgery. If in specialist cancer centres the patients are seen before a decision on treatment by the multidisciplinary team and then managed by that team with major support from other health workers who include physiotherapists, social workers, psychotherapists, and alternative therapy nurses, whereas in smaller cancer units patients do not have access to the same range of staff after diagnosis and limited backup facilities are available, then we will once again end up with a two tier system for the treatment of patients with breast cancer.

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Advice to authors

We receive more letters than we can publish: we can currently accept only about one third. We prefer short letters that relate to articles published within the past four weeks. Letters received after this deadline stand less chance of acceptance. We also publish some "out of the blue" letters, which usually relate to matters of public policy.

When deciding which letters to publish we favour originality, assertions supported by data or by citation, and a clear prose style. Wit, passion, and personal experience also have their place.

Letters should have fewer than 400 words and no more than five references (including one to the *BMJ* article to which they relate); references should be in the Vancouver style. We welcome pictures.

Letters should be typed and signed by each author, and each author's current appointment and address should be stated. We encourage you to declare any conflict of interest.

Please enclose a stamped addressed envelope if you would like to know whether your letter has been accepted or rejected.

Letters will be edited and may be shortened.

2 Richards MA, Baum M, Dowsett M, Maguire P, McPherson K, Morgan DAL, et al. Provision of breast services in the UK: the advantages of specialist breast units. Report of a working party of the British Breast Group. *The breast*. Edinburgh: Churchill, 1995.

3 Sainsbury R, Haward R, Rider L, Johnston C, Round C. Influence of clinician workload and patterns of treatment on survival from breast cancer. *Lancet* 1995;345:1265-70.

More centralisation of services is not needed

EDITOR,—Charles R Gillis and David J Hole may have found evidence that survival of patients with breast cancer is improved if they are treated by specialist breast surgeons, but there is little scientific evidence that surgery influences survival from breast cancer to any significant extent and they collected no information on the details of treatment received.¹ There is considerable evidence, however, to support the survival benefit of adjuvant hormone therapy and chemotherapy² and of long term benefit from adjuvant radiotherapy.³ Correlation does not prove causation. If encouraging surgeons to work more closely with oncologists can achieve better access to adjuvant treatment and produce improved survival, this would be a much cheaper solution than to create large numbers of specialist breast units. The latter solution should be subjected to a full health technology assessment before being widely adopted.

The gain in treatment benefit of referral to so called specialists over and above the application of clearly defined protocols is unclear. There is evidence of the slow adoption of novel therapies into clinical practice, both within⁴ and outside oncology. The faculty of clinical oncology of the Royal College of Radiologists is trying to address the problem of medical practice variation through the clinical oncology information network (COIN) project, a major strand of which is national comparative audit in oncology against professionally agreed guidelines of best practice.⁵

While Gillis and Hole are correct in asserting "that there is a need to improve equity in the treatment of breast cancer" we do not need more centralisation of services leading to less equity; we do need timely protocols and guidelines widely and rapidly disseminated by using modern information technology. Recommendations from the Royal College of Radiologists on cancer management will soon be appearing on the worldwide web, and there can be no doubt that in future many cancer specialists will be using computer based information services to bring a high level of care to cancer patients irrespective of where they live

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1 Gillis CR, Hole DJ. Survival outcome of care by specialist surgeons in breast cancer: a study of 3786 patients in the west of Scotland. *BMJ* 1996;312:145-8. (20 January.)

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Case selection bias affected results

EDITOR,—Charles R Gillis and David J Hole provide clear evidence that patients of specialist sur-

geons have a higher survival rate from breast cancer than those of non-specialist surgeons.¹ However, they go on to conclude that this association is one of cause and effect, rather than due to differences in the cases referred to the two groups of surgeons (case selection bias). Their reason is that the difference in outcome persisted after adjustment for some prognostic factors; but statistical techniques can correct for case selection bias under only three conditions, none of which held in the study reported.

Firstly, the correction must take account of all prognostic factors, but Gillis and Hole did not include whether metastatic disease was present, and information on histological grade was available in only a minority of patients. Furthermore, the difference in prognosis between breast cancer patients is only partially explained by the known prognostic factors, and by definition, Gillis and Hole could not correct for factors not yet identified.

Secondly, the formula used for correction for prognostic factors must be the correct one for the situation. Gillis and Hole used Cox's proportional hazards model, but they do not comment on how well it fitted the data. Other data suggest that Cox's model is not in fact a good fit to breast cancer mortality data.²

Thirdly, when adjusting outcome for variation in tumour size, Gillis and Hole did not use the actual tumour size but merely three categories of size. Full adjustment for a prognostic factor requires the actual value of the factor, not values combined into a few large categories.

So the adjustment for case selection bias can only have been partial, and it remains unknown whether a difference in outcome would persist after complete adjustment. In fact, the three above conditions will rarely if ever be met, and this is why randomised prospective studies are necessary to eliminate case selection bias altogether.

The association between specialists and outcome is an important finding, but we must not jump to the conclusion that the linkage is one of cause and effect. If we really want to find out if specialisation improves outcome, it can only be through a prospective randomised trial—difficult to set up perhaps, but studies of equal difficulty have already been completed. The potential gains (if specialisation really does improve outcome) and the certain drawbacks (from disruption to the organisation of surgical services) surely justify serious consideration of such a trial.

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1 Gillis CR, Hole DJ. Survival outcome of care by specialist surgeons in breast cancer: a study of 3786 patients in the west of Scotland. *BMJ* 1996;312:145-8. (20 January.)

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Protocols are important

EDITOR,—The results of Charles R Gillis and David J Hole's study are interesting, but I feel their conclusion is extremely misleading.¹ While it seems that the survival rate was higher for those patients treated by specialist surgeons, the paper does not answer the more vital question as to why this should be so—it merely postulates the causes of the difference seen.

The conclusion that the future care of patients with breast cancer should be provided through specialist units cannot be supported by the results of the study. What is needed is an understanding of why there was a difference in survival, leading to recommendations in a protocol for treating breast cancer. Other authors have shown that it is protocols that are the most

important factor in determining patients' outcome in breast cancer, not the building in which they receive treatment.²

My fear as a lead clinician in cancer services in a small hospital is that those who are bent on the myth that big is beautiful will use this report to try and concentrate medical care in big centres, with total disregard for the public's desire to have services of acceptable standard based locally.

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1 Gillis CR, Hole DJ. Survival outcome of care by specialist surgeons in breast cancer: a study of 3786 patients in the west of Scotland. *BMJ* 1996;312:145-8. (20 January.)

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Health services must develop services to reduce crime and violence

EDITOR,—We welcome recent editorials on the impact of violence on public health.¹⁻³ In the annual report of the director of public health for the borough of Sandwell, *Safer Sandwell*, we have tried to explore the relation between crime and the fear of crime and public health.⁴

The roots of crime and public health are frequently the same. Our interpretation of crime statistics by police beat showed highly significant correlations between all crimes and violence and non-ownership of a car and unemployment.

Nationally, crime increased by three quarters between 1983 and 1993. In the same period inequalities in health have widened and life expectancy in some groups has fallen. These are fundamental failures of public policy, which can be addressed only by reducing inequalities in income between the very poorest and richest people in society.

Social justice and the health of ethnic minorities are also key themes of public health policy. Ethnic minorities are at greater risk of crime and at greater risk of unfair treatment under the criminal justice system. Our report showed that the difference in previous offending between white and black male youths was not significantly different (39% v 41%), yet black Caribbean youths were far more likely to receive custodial sentences after their first offence than were white youths (80% v 70%).

We highlighted those areas in which the health service is a major force for prevention and early detection of crime and for responding to crime; these include child protection, adult protection in care services, and prevention of substance misuse. We estimated that 6000 crimes might be prevented by effective harm minimisation opiate substitution services (based on 20 injecting users with a £160 a day habit stealing videos valued at £30 on the street).

Doctors should familiarise themselves with the voluntary services available locally that can support victims of crime, including Victim Support, women's refuges, Rape Crisis, mediation schemes, neighbourhood watch, citizens' advice bureaux, community safety forums, and crime prevention projects. This may lead to more appropriate management of anxiety and depressive states and other manifestations of distress caused by crime and fear of crime.

Health services should also be involved in multidisciplinary planning initiatives that target local areas of poverty. These initiatives need genuine partnerships meeting local needs, not professional aspirations.

Health services must be involved in public health advocacy and partnerships to promote health and safety and must develop their own effective services