

mortality, is deliberately misleading: the excess deaths were due to distant metastases. These deaths were inevitable even before the patients entered the flawed trial. We know that this was the basis for the rejection of the study as totally inappropriate by the Radiation Therapy Oncology Group's fast neutron group in the US. So why waste time, precious resources, and the trust of patients?

Yet Dr Errington and colleagues have persevered and delivered another antineutron headline. Such a headline might have been critical to the project to get a cyclotron where it would be used effectively for the benefit of patients. But this had already been torpedoed—after a brilliant, well orchestrated campaign—by the withdrawal of what has been represented as the infamous Thatcher £6 million repayable loan—which was not a grant for cancer research, as is so often misreported, but a repayable loan for treatment.

Happily, one important message that can be gleaned from this study is the absence of excess normal tissue morbidity in the pelvis of patients treated with 19.2 Gy of high energy neutrons in 12 fractions over 28 days. Further studies—sadly, probably elsewhere—will identify the true role for neutrons in treating advanced cancer.

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1 Errington RD, Ashby D, Gore SM, Abrams KR, Myint S, Bonnett DE, *et al.* High energy neutron treatment for pelvic cancers: study stopped because of increased mortality. *BMJ* 1991;302:1045-51. (4 May.)

**AUTHORS' REPLY.**—Dr Bates's comments are inappropriate as far as the detail of the design and subsequent analysis of the Clatterbridge trial of high energy neutrons versus photons in advanced pelvic cancers are concerned.<sup>1</sup> The trial featured informed consent, no exclusions from analysis, randomisation from the first patient, and the same investigations and follow up procedures for patients treated with neutrons and photons. It lacked power to detect moderate benefit for high energy neutrons from the point of view (that is, equipoise) reflected in the prior opinion of peers—a problem common to all trials of neutrons because of the cost of cyclotrons and need for all patients to be assessed by the same doctors. There was, however, no lack of power to exclude modest benefit for high energy neutrons from the prior position reflected in the results of trials of low energy neutrons. A priori, peer opinion moderated pessimism about low energy neutrons. A posteriori, the relevance of the results obtained with low energy neutrons had to be reassessed.

Randomisation should preclude imbalance of patients with occult metastases between neutron and photon treatment. It will not do so in every trial. The issue of fortuitous imbalance is addressed by retrospective proportional hazards adjustment of major prognostic factors ascertained before randomisation and themselves related to metastatic risk. Retrospective adjustment should not be made for metastatic state as ascertained after randomisation because the ascertainment process or the metastases, or both, could be related to treatment. With respect to the data on morbidity, Dr Bates has overlooked the caution we advocated in their interpretation because of the small number of patients at risk of developing later severe reactions.

The statement concerning the rejection of our study by colleagues in the Radiation Therapy Oncology Group is misleading.<sup>1</sup> The paper was presented at meetings of the group's Neutron Collaborative Working Group in the US in March and October 1990 and March 1991. At no time did the working group question the merits of our trial or reject its findings. At the time that the cyclotron controversy started<sup>2</sup> the studies at Clatterbridge

were still recruiting patients. This continued despite the difficulties caused by the extreme views expressed by the protagonists and antagonists of neutron treatment. These certainly were a betrayal of the trust of patients and restricted the use of a precious resource primarily carrying out objective clinical research.

As far as other studies are concerned, the cyclotron at Clatterbridge has been a major contributor to the Radiation Therapy Oncology Group and Medical Research Council neutron head and neck trial (data validated by a site visit by the Radiation Therapy Oncology Group in November 1990). The role of neutrons in locally advanced salivary gland<sup>3</sup> and air sinus tumours<sup>4</sup> is acknowledged, with treatment available at Clatterbridge since July 1987. Alternative approaches to trials of neutron treatment have been suggested.<sup>5</sup> Until these can be put into practice the results of randomised studies and their objective appraisal<sup>6</sup> are a more appropriate guide to the correct application of neutron treatment than clinical anecdotes and subjective views, which have been such a feature of the cyclotron saga.

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## What determines the age at the menopause?

**SIR.**—Though I agree with Dr Jean Ginsberg that parity, race, and smoking are factors that influence the age at the menopause, a link with nutrition is not clear cut.<sup>1</sup> Genetic and racial factors and high parity are probably the most important determinants. The connection may lie in "genetic programming," to which Dr Ginsberg refers. This causes some women to ovulate longer, which may lead to higher parity and possibly a later menopause. It is difficult to understand why multiple pregnancy should lower the age at the menopause when there is a correlation between high parity and multiple pregnancy.

Viable pregnancy is rare in women beyond the age of 50. This has been presumed to be a result of increasing anovulation. Nevertheless, Novak found a surprising number of women—23% in his study of 200 women above 50—showing histological evidence of recent ovulation.<sup>2</sup> In a recent study (paper in preparation) of pregnancies in seven women confirmed as being aged over 50 conducted over two years at Dudley Road Hospital, Birmingham, some fascinating features emerged. Four are worthy of consideration.

Firstly, all the women were Asian. Four came from the Mirpur district of Pakistan and three from the Sylhet district of Bangladesh. Both these regions are underdeveloped and overpopulated. Secondly, the average age at the time of the latest

delivery was 52.8 years (oldest 59, youngest 51). The age was checked from birth certificates or passports and cross checked with that on the birth certificate of the first child. Thirdly, all these women were highly parous with an average of 8.8 children. Two of the seven women had also delivered twins. Finally, the average age at the first pregnancy had been 31. Every one of these women was a grandmother.

Such examples of ovulation continuing well beyond the average age of the menopause may indeed be due to genetic programming. As well as a late age at the menopause the effect of this is, more importantly, prolonged fertility well into the sixth decade. Understanding and perhaps regulating the factors determining the age at the menopause could have important effects in controlling fertility, particularly in already overpopulated countries.

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- 1 Ginsburg J. What determines the age at the menopause? *BMJ* 1991;302:1288-9. (1 June.)
- 2 Novak ER. Ovulation after fifty. *Obstet Gynaecol* 1970;36:903-10.

**SIR.**—In her editorial<sup>1</sup> Dr Jean Ginsberg has omitted to mention that left handed women have earlier menopause than right handed women. This association may be related to possible correlations between left handedness and autoimmune disorders, which may include reactions against hormone receptor sites and oocytes.<sup>2</sup>

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## Increasing the uptake of cervical smear testing among Asian women

**SIR.**—Dr Brian R McAvoy and Rabia Raza's recent article about the effectiveness of personal visits in increasing the uptake of cervical smear testing among Asian women<sup>1</sup> prompted a letter of response<sup>2</sup> that raised once again the issue of the availability of the target population for screening and the inaccuracy of recorded addresses in the databases of family health services authorities. We agree that studies to assess the effectiveness of efforts to promote screening are dogged by the problem of women not being resident at the address on the invitation and no access being possible at the address.

The discrepancies between the findings of Dr McAvoy and Rabia Raza and Drs Joyce M Carter and Susan E Ellerby with regard to the proportion of women who were contactable at the address on the screening invitation may be accounted for by the different populations that were being studied. Dr McAvoy and Rabia Raza visited randomly selected Asian women who had never been tested previously whereas Drs Carter and Ellerby visited any women who had not responded to the call-recall scheme for cervical cytology: Dr McAvoy and Rabia Raza found that 159 of 482 declined to participate or were not contactable whereas Drs Carter and Ellerby found that at 58-68% of 1273 addresses no access was possible and 12-13% of addresses were incorrect.

In following up women who do not attend for

breast screening we have found a difference in the ability to trace Asian and non-Asian women. In a study in central Manchester we were unable to gain access at their address for only six of 93 Asian non-attenders compared with 26% of 103 non-Asian women. By gaining some information from other occupiers we established that half of the Asian women were no longer resident at the address on the invitation. Though this was the main reason for non-attendance among Asian women, it could only be estimated to be the reason for 26-54% of the non-Asian women.

Our impression was of two different types of response: when we followed up non-Asian women access was more difficult and it was harder to gather information from other occupiers or neighbours, whereas more of the Asian community were available and were more helpful. Furthermore, the outcome of personal visits to non-attenders was more successful among Asian women: of the Asian women contacted and offered additional appointments, 70% subsequently attended for screening whereas only 36% of non-Asian women did so. In terms of the effectiveness of personal visits on the overall uptake of screening attendance for breast screening by Asian women increased by 9%.

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1 McAvoy BR, Raza R. Can health education increase uptake of cervical smear testing among Asian women? *BMJ* 1991;302:833-6. (6 April.)

2 Carter JM, Ellerby SE. Increasing the uptake of cervical smear testing among Asian women. *BMJ* 1991;302:1152. (11 May.)

## The new NHS: restricting GPs' access to x ray services

SIR,—It has been stated repeatedly that the main reason for the recent reform of the NHS is to improve care and make the service more responsive to patients' needs. It may therefore come as a surprise to many to discover that the first effects of the reform, at least in Bradford, seem to be a drastic cutback in general practitioners' access to some of the previously available diagnostic services.

This was evident in the case of two of our patients referred for x ray investigations. One was a man with a long history of headache, painful neck, and limitation of neck movements, who was referred for radiography of the cervical spine on 18 February. The request card was returned to the practice on 8 March with a letter, signed by the director of radiodiagnostic services, stating, "x ray clinically not indicated." The other patient was a 35 year old man with a 20 year history of painful hip (never investigated before) with acute pain on lateral rotation. The request for radiography of his hip was similarly turned down two weeks after his referral.

These cases, which may signal the beginning of the end of general practitioners' clinical freedom and direct access to hospital based services, raise several important issues. Firstly, how can a director of radiodiagnostic services, not knowing and not having seen the patient, make such a decision about the appropriateness of a request for radiography? Secondly, even if by virtue of his new exalted position he is expected to carry out resource management (another name for cost cutting) by vetting requests for radiography, would it not be more desirable—and courteous—at least to telephone the referring doctor and discuss the patient before the summary rejection? Thirdly, and probably most importantly, who will be

responsible for the medicolegal consequences of a missed diagnosis—the referring general practitioner or the above mentioned director? Finally, how should a general practitioner who has already explained to a patient that an x ray film is necessary to reach a diagnosis now explain that really there is no need for an x ray film in the opinion of a colleague who hasn't even seen the patient?

If this is what NHS reform is going to bring, heaven help the patients.

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\*\*We sent the above letter to the director of resource management, diagnostic imaging, in Bradford, who replied as follows:

SIR,—If by directing criticism at me for making some restrictions on general practitioners' access to imaging services in the Bradford trust Drs Bahrami and Shoesmith were hoping to discredit the current NHS reforms they were widely off their target.

For some years now there have been progressive moves to reduce the number of diagnostic examinations that use ionising radiation.<sup>1,2</sup> In addition, the consumer magazine *Which?* recently highlighted the use of diagnostic x ray examinations in women of childbearing age.<sup>3</sup> The fact that imaging departments are overused by general practitioners was shown by Meiring and Wells, who achieved an overall reduction of 23% in general practitioners' referrals in their service and a 28% reduction in targeted examinations.<sup>4</sup>

It seems that Drs Bahrami and Shoesmith do not accept the need to reduce the number of investigations using ionising radiation and see an attempted reduction as a restriction on their right of access to imaging departments, using that as a criticism against trust hospitals. I and, I am sure, Drs Bahrami and Shoesmith have the best interests of the patient uppermost when using diagnostic imaging services, but the service is undoubtedly overused<sup>5</sup> and rigorous steps must be taken to make some reduction. Nolan emphasised the need for all doctors to restrict the use of investigative techniques with ionising radiation.<sup>5</sup>

In the two specific examples cited by Drs Bahrami and Shoesmith neither followed their own advice of using a telephone to make additional information available to a consultant radiologist.

Consultant radiologists accept responsibility for all work done in their department, except for some screening procedures, and they must therefore be satisfied that the clinical information accompanying the request justifies the examinations. The responsibility for performing an inappropriate examination on the basis of the clinical information given by a general practitioner would lie with the consultant radiologist and not the requesting doctor. I am sure that many radiologists will await with interest, and some anxiety, the outcome of a malpractice claim in which a patient seeks redress for the performance of an inappropriate imaging investigation requested by a non-radiologist.

The Royal College of Radiologists and the National Radiological Protection Board have published guidelines on restricting the use of imaging services.<sup>1,2</sup> In the interests of providing a quality service to patients I hope that all users will take on board the sentiment of the guidelines and respond to them responsibly.

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## Voting for Guy's and Lewisham Hospitals to become a self governing trust

SIR,—In July 1990 the consultant members of the medical and dental committee for Guy's and Lewisham Hospitals voted on whether the two hospitals should be run by a self governing trust from April 1991, with 64% of consultants voting for the proposal.<sup>1</sup> In the same ballot only 15% of the consultants stated that they thought that the reforms of the NHS would benefit health care.

Many of those who voted for trust status are likely to have been influenced by being told at a meeting of the committee that to opt out would be financially beneficial. The inference was that the government needed its "flagship" to be seen to prosper. We were misinformed. No additional money has been forthcoming.

We were also told that we would be allowed to become a trust only if our financial position was healthy. It is not. At present we have a predicted deficit of £6.8m at the end of the first year of operating as a trust, a huge accountancy error that must have been overlooked.<sup>2</sup>

A further important issue likely to have affected those voting was the assurance that consultants' NHS contracts would be transferred unchanged to the trust. No mention was made that after the transfer the contracts would be open to renegotiation by the trust.

Considerable concern was also expressed in the committee about freedom of speech, and an assurance was given that this would not be affected. This assurance is not supported by a draft document, leaked from the Department of Health, which suggests that a doctor's freedom to speak publicly about health care could be restricted.<sup>3</sup> The concern seems to be that in a commercially competitive system critical comments made about care or facilities in a hospital would damage its image and so be bad for business.

What was obviously not made known at the time of the ballot was that as a result of our poor financial position 600 jobs, or their equivalent, would be axed, with loss occurring at all levels, including among consultant staff.<sup>2</sup> There was also no mention that certain departments were to be singled out for support while others would receive reduced support or even be closed. Consultants were therefore unaware when voting for self governing trust status that they might also be voting for the destruction of their own department as well as placing their freedom of speech and even their jobs in jeopardy.

At the time everyone realised that the vote was based on scanty information. We did not realise, however, the extent to which even this information was incorrect or misleading. Had all members of the committee been made aware of the full facts the result of the ballot would surely have been very different.

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