

protruding upper ends of the metal uprights in certain types of older cot (30 January, p 351).

On 28 January 1982 I had a similar case of a 1-year-old baby boy who had been given a feed and then put into the cot by his mother, who went to have a rest. He was wearing a knitted woollen jumper with small open spaces in the pattern. The sleeve of the jumper appeared to have caught in the fittings of the cot and the baby's arm had come out of the sleeve. The neck of the jumper had acted as a ligature around the baby's neck and in this case, tragically, death had occurred.

Perhaps general practitioners visiting babies in their homes should draw the attention of mothers to the potential hazard of this type of cot, particularly for the older and more active infant.

M A WOODHOUSE

County Laboratory,  
Dorchester, Dorset DT1 1XD

I thank Mr M Johnston, HM Coroner for West Dorset, for permission to submit this letter.

### Oestrogen receptors and survival in early breast cancer

SIR,—There is considerable optimism about the value of oestrogen receptor analysis in breast cancer,<sup>1</sup> though some reservations have also been noted.<sup>2</sup> We hope that it will prove to be an important aid in patient management. However, the conclusions that oestrogen receptor status is an *independent* prognostic indicator in breast cancer, as suggested by Mr R Croton and others (28 November, p 1289), and that determination of the oestrogen receptor level in breast tumours is *essential* to the selection of patients for therapy regimens<sup>3</sup> are, we believe, premature.

There are, for instance, wide interlaboratory differences in reporting the oestrogen receptor status of the same tumour, and oestrogen receptor status may well vary at different sites within the same tumour.<sup>4,5</sup>

We have recently looked at our own five-year survival figures for a small series of patients with operable breast cancer treated in Yorkshire from 1972 to 1975, in each of whom oestrogen receptor analysis was performed on the primary tumour (figure). All patients were treated by mastectomy and received radiotherapy if axillary lymph nodes were invaded. Results have been included only when we were certain that tissue handling and transport satisfied the strict criteria required by our laboratory. The assay used was the multiple point, dextran-coated charcoal method, and the cut-off point used was 12 fmol/mg cytosol protein. The series comprised 292 patients, of whom 172 (59%) were oestrogen receptor positive and

120 oestrogen receptor negative. There were 66 and 59 deaths respectively with behaved-to-expected ratios of 0.88 and 1.99. The two survival curves move in the generally accepted direction up to five years, with oestrogen-receptor-positive women having the better prognosis. At five years the curves cross; and beyond this point, although the numbers are too small to be of value, there appears to be no benefit for the oestrogen-receptor-positive women. We have not further analysed this series by tumour grade, clinical stage, or lymph node status, all of which are important prognostic factors.

We are at present analysing data from a much larger group of women (1200) with primary operable breast cancer, treated from 1975 to 1980, in whom we have measured as many prognostic variables as possible, including oestrogen receptors. We hope that we will then be in a better position to define more clearly the role of oestrogen-receptor analysis in prognosis. However, at present it may be premature for clinicians in Britain to take therapeutic action on the basis of an oestrogen receptor result.

E A BENSON

General Infirmary,  
Leeds LS1 3EX

R A CARTWRIGHT

Yorkshire Regional Cancer Organisation,  
Cookridge Hospital,  
Leeds LS16 6QB

P N COWEN  
J HAMILTON

University Department of Pathology,  
Leeds

<sup>1</sup> Hawkins RA, Roberts MM, Forrest APM. *Br J Surg* 1980;**67**:153-69.

<sup>2</sup> Heuson JG. In: *Cancer: Tenth Pfizer international symposium*. Edinburgh: Churchill Livingstone, 1980:349-50.

<sup>3</sup> Carter SK, Reubens RD. *Lancet* 1981;**ii**:795-7.

<sup>4</sup> Wilson A. *Tamoxifen Trial Newsletter* (ICI) 1981; April: 2-3.

<sup>5</sup> Leake R. *Tamoxifen Trial Newsletter* (ICI) 1981; April: 3-5.

SIR,—We take issue with the conclusion drawn by Mr R Croton and his colleagues in their paper on oestrogen receptors and survival in early breast cancer (14 November, p 1289). They suggested that, as the patients in their study whose tumours contained oestrogen receptor survived longer than those without it, the measurement of this receptor at the time of initial presentation may be of value in identifying those patients at greatest risk of dying of their disease, who should consequently be entered into trials of adjuvant therapy.

As it now seems well established that patients who are oestrogen-receptor positive are more likely than those who are oestrogen-receptor negative to respond to hormonal therapy when they relapse,<sup>1-3</sup> and as in the Liverpool study most patients received tamoxifen as a treatment for recurrent or metastatic disease, it is possible that the treatment of advanced disease improved survival of an unknown proportion of the oestrogen-positive patients. The study includes data on patients followed from mastectomy to relapse and then from relapse to death. As death inevitably follows relapse it is the behaviour of oestrogen-positive and oestrogen-negative tumours only during the former period that is relevant to the selection of patients with potentially curable disease for adjuvant treatment. Survival from relapse to death is influenced by the response to the treatment of the secondary disease and, although this may be affected by the oestrogen-receptor status, it does not reflect the natural history of the

disease and thus is irrelevant when patients are being selected for adjuvant therapy.

In Manchester our experience of the value of oestrogen-receptor measurement in predicting early relapse differs from that reported previously by the Liverpool group,<sup>4</sup> and it has been disappointing. Like others, we have been unable to show a significant difference in the relapse rates of node-negative patients with and without oestrogen receptors,<sup>5-7</sup> and only in those patients with minimal lymph node involvement (one to three nodes positive) did the difference in the disease-free interval just achieve significance at a median follow-up of 24 months ( $p=0.05$ ). However, like Hahnel and his colleagues,<sup>8</sup> we found that even this apparent advantage disappeared as the length of follow-up increased, so that at a median of 34 months there was no difference in the recurrence rates of oestrogen-positive and oestrogen-negative patients in any subgroup. Hilf<sup>9</sup> was unable to demonstrate any value in oestrogen receptors as a prognostic factor.

These results and the conflicting evidence of many other reports suggest to us that the effect of oestrogen receptors on the natural progression of the tumour is minimal and that measurement of oestrogen receptors is unlikely to prove of significant value in identifying those patients who would receive maximum benefit from adjuvant therapy.

JOHN M T HOWAT  
R N L HARLAND

Department of Surgery,  
University Hospital of South  
Manchester,  
Manchester M20 8LR

DIANA M BARNES  
TONY HOWELL

Christie Hospital and Holt  
Radium Institute,  
Manchester M20 9BX

<sup>1</sup> Moseley HS, Peetz ME, Keenan EJ, Awrich AE, Fletcher WS. *Am J Surg* 1980;**140**:164-72.

<sup>2</sup> McGuire WL. In: Iacobelli S, ed. *Hormones and cancer*. New York: Raven Press, 1980:337-43.

<sup>3</sup> Nicholson RI, Griffiths K, Blamey RW, Bishop HM, Haybittle JL. *Environ Health Perspect* 1981;**38**:143-6.

<sup>4</sup> Cooke T, George WD, Griffiths K. *Br J Surg* 1980;**67**:747-50.

<sup>5</sup> Knight WA, Livingston RB, Gregory EJ, McGuire WL. *Cancer Res* 1977;**37**:4669-71.

<sup>6</sup> Bishop HM, Blamey RW, Elston CW, Haybittle JL, Nicholson RI, Griffiths K. *Lancet* 1979;**ii**:283-4.

<sup>7</sup> Kinne DW, Ashikari R, Butler A, Menendez-Botet C, Rosen PP, Schwartz M. *Cancer* 1981;**47**:2364-7.

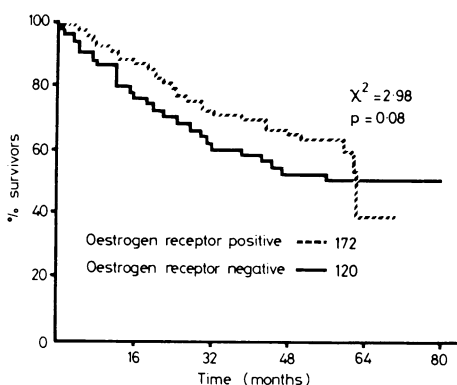
<sup>8</sup> Hahnel R, Woodings T, Vivian AB. *Cancer* 1979;**44**:671-5.

<sup>9</sup> Hilf R, Feldstein ML, Gibson SL, Savlov ED. *Cancer* 1980;**45**:1993-2000.

SIR,—We were interested to read the paper "Oestrogen receptors and survival in early breast cancer" by Mr R Croton and others (14 November, p 1289) in which a close correlation between survival and oestrogen receptor status was observed in 414 patients with early breast cancer.

It is now generally accepted that there is good correlation between oestrogen-receptor status and the histological grade of the tumour.<sup>1</sup> In a study of postmenopausal patients with primary breast cancer, recently carried out in this hospital, 14 out of 16 (88%) of grade 1 breast tumours were found to be oestrogen-receptor positive.

In figure 6 Mr Croton and others showed that the four-year survival rate in patients with oestrogen-receptor-positive tumours and uninvolved axillary lymph nodes was of the order of 97%. As this was a large series, it would be of interest to know what the four-year survival rate was in node-negative patients with grade 1 tumours. Do the authors feel that anything is gained by carrying out an oestrogen-receptor



Survival in women with breast cancer with and without oestrogen receptors.