judgments as our watches, none go just alike yet each believes his own."

On those few occasions when quality of life or effectiveness of palliation is assessed in clinical trials the results can be very instructive. The Australian-New Zealand Breast Cancer Trials Group tested the hypothesis that in metastatic breast cancer intermittent chemotherapy might provide better palliation than continuous chemotherapy.[3] It didn't. One group of patients was randomised to receive chemotherapy until the disease progressed. Others received three cycles of the treatment and restarted it only when the disease progressed. During the first three cycles, when both groups were receiving identical treatment, the patients' quality of life improved substantially. Nausea and vomiting were more pronounced during chemotherapy, but the patients' own assessment of their physical wellbeing, pain, mood, appetite, and overall quality of life all improved. Other non-specific symptomatic care was available to the patients and may have accounted for some of the benefit, but this result suggested an improvement in quality of life due to chemotherapy.

After three cycles one group continued chemotherapy with its attendant toxicities while the other had no specific antitumour treatment. Those given continuous chemotherapy reported a superior quality of life. These two results taken together strongly support the palliative value of chemotherapy in advanced breast cancer.

Chemotherapy may improve survival for patients with advanced colorectal cancer[4] and with non-small cell lung cancer.[5] Mackillop *et al*, however, found that over four fifths of experts on lung cancer would refuse to be enrolled in a trial of chemotherapy if they had metastatic non-small cell lung cancer.[6] The main reasons for rejecting the treatment were its toxicity and its perceived ineffectiveness.

In most branches of medicine perceptions of the value of treatment may vary widely depending on who is asked. Jachuck *et al* found that all doctors thought that their patients' quality of life had improved after they started antihypertensive treatment but that three quarters of the patients' relatives thought that it was worse.[7] When the patients were interviewed 48% said that they felt better, 8% felt worse, and 44% felt the same. Whose was the correct perception? Surely those on the receiving end.

The use of chemotherapy in conjunction with definitive local treatment with curative intent—so called adjuvant chemotherapy—can produce substantial improvements in disease free and overall survival in cancers of the breast,[8] colon,[9] and rectum.[10] Of women interviewed after they had received adjuvant chemotherapy for early breast cancer, 46% thought that the inconvenience and toxicity of the treatment was worth while if they gained as little as six months' improvement in a life expectancy of five years. More than half thought a 2% improvement, from 65% to 67%, in their chances of living five years was enough to justify treatment.[11] Adjuvant treatment with combined cyclophosphamide, methotrexate, and fluorouracil (CMF) improves the five year survival of women under 50 with node positive breast cancer by about 10%.[12] This amount of benefit seems to be of sufficient size to justify the costs in the minds of the recipients, explaining the widespread acceptance of adjuvant chemotherapy in this setting.

The place of adjuvant chemotherapy in the treatment of stage I breast cancer, which has an excellent prognosis with surgery alone, is highly contentious.[13 14] Innovative techniques have been used to take account of the time a patient may spend with, on the one hand, toxicity due to treatment and, on the other, recurrent disease.[15] Nowadays assessments of quality of life are part of the evaluation of patients during trials of adjuvant therapy,[16] and these methods should be especially valuable in analysing benefit in stage I disease.

If, as seems likely, the benefit of new adjuvant treatments is limited and is of the order already achieved, the impact on quality of life may well be the basis of choice between such treatments in the coming decade. Patients with incurable cancer will accept the offer of chemotherapy more readily if they can be assured that the quality of life of others in similar circumstances has been improved by such treatment. The more widespread use and critical evaluation of the instruments employed to assess quality of life in trials of adjuvant and palliative chemotherapy now being undertaken are to be welcomed.[2 16-18]

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Corrections

The road to Rio

An editorial error occurred in this article by Sir Donald Acheson (30 May, p 1391). The reference cited in the fourth paragraph should have been: Report of the WHO Commission on Health and the Environment. *Summary. Our Planet, Our Health*. Geneva: WHO, 1992.

A meeting of rich and poor

An authors' error occurred in this editorial by Richard Smith and Robin Stott (30 May, pp 1392-3). The second sentence of the third paragraph should have read: In 1990 the developing countries received £28·3 billion in aid but had to pay back £34·5 billion in interest on their debts.[3]

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