

Letter

Cisplatin plus vinorelbine or gemcitabine in patients with advanced non-small cell lung cancer: Pharmacoeconomic considerations

Sir,

I read with interest the article by Martoni and colleagues [1] that reported the clinical and pharmacoeconomic findings of a randomised controlled trial of cisplatin plus vinorelbine or gemcitabine in patients with advanced non-small cell lung cancer, and wish to make the following comments regarding the pharmacoeconomic component of the analysis:

1. The trial was designed and powered to demonstrate superiority in tumour response rates of one regimen over another, though no differences were detected. As 'absence of evidence is not evidence of absence' [2], it is inappropriate to conduct a cost-minimisation analysis (CMA) on the basis of an observed lack of significance in regimen efficacies [3]. CMA is only appropriate when conducted alongside a suitably designed equivalence trial, or where there is verifiably no difference in health outcome (including both efficacy and safety) between treatments. Differences in the side-effect profiles of both regimens, such as the higher incidence of grade 3–4 neutropenia and anaemia with cisplatin plus vinorelbine versus cisplatin plus gemcitabine would in itself justify the use of an alternative cost-effectiveness analysis.
2. As the cost data were skewed, the authors applied the non-parametric Mann-Whitney *U* test for comparing differences in costs between regimens. The analysis showed that cisplatin plus vinorelbine was less costly than cisplatin plus gemcitabine. The use of Mann-Whitney *U* test, however, is inappropriate in this context as it compares distributions in terms of both

shape and location [4]. A significant result may merely confirm a difference in the variance in the costs of both treatment groups.

For the reasons discussed, decisions based on pharmacoeconomic component of the trial by Martoni and colleagues [1], requires it to be interpreted with caution. The authors' conclusion that cisplatin plus vinorelbine was cheaper overall, which may have direct clinical implications, is not justified by the pharmacoeconomic analysis presented.

References

1. Martoni A, Marino A, Sperandi F, et al. Multicentre randomised phase III study comparing the same dose and schedule of cisplatin plus the same schedule of vinorelbine or gemcitabine in advanced non-small cell lung cancer. *Eur J Cancer* 2005, **41**, 81–92.
2. Altman DG, Bland MJ. Statistics notes: absence of evidence is not evidence of absence. *BMJ* 1995, **311**, 485.
3. Briggs AH, O'Brien BJ. The death of cost-minimization analysis? *Health Econ* 2001, **10**, 179–184.
4. Thompson SG, Barber JA. How should cost data in pragmatic randomised trials be analysed? *BMJ* 2000, **320**, 1197–1200.

Dyfrig A. Hughes

Centre for the Economics of Health

Institute of Medical and Social Care Research (IMSCaR)

Wheldon Building, Deiniol Road

University of Wales, Bangor, Gwynedd

North Wales, LL57 2UW, UK

Tel.: +44 1248 382950

E-mail address: d.a.hughes@bangor.ac.uk

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