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CORRESPONDENCE

## Authors' response to Murray *et al*

We thank Murray *et al* for their interest and complementary comments regarding the LENT score (pleural fluid lactate dehydrogenase, Eastern Cooperative Oncology Group (ECOG) performance score (PS), neutrophil-to-lymphocyte ratio and tumour type).[1] We are pleased they felt it would be a beneficial addition to multidisciplinary team discussions.

We agree with their observation that the survival differences between cell types may reflect different stages of disease at presentation with malignant pleural effusion (MPE) or the availability of subsequent effective therapies for some of the underlying tumour types. However, when designing the LENT score we chose to use the cell types themselves rather than make assumptions about potential treatment options, as management decisions are often complex and affected by multiple factors, such as other comorbidities.

We agree that the poor survival of patients with lung cancer in this cohort is an important finding and that the survival of this group is often overestimated. All the patients in our study had presented with symptomatic pleural effusion warranting investigation or management and hence the findings are not necessarily generalisable to those patients with lung cancer and an incidental effusion identified on imaging alone, or 'paramalignant' effusions. However, there is recent data to suggest patients with lung cancer and even minimal effusions do have a worse survival to those with no effusion at all.[2]

The patients with lung cancer in our cohort included those with a new presentation of lung cancer, as well as those where the MPE represented progressive disease. The numbers are small, but an univariable Cox model found no statistically significant difference in survival between progressive disease versus new presentations for UK Cohort 1 (HR 1.06 (95% CI 0.56 to 2.00); n=66). Evaluating patients with lung cancer alone, the area under the receiver operating characteristic curves (AUCs) at 1 month, 3 months and 6 months were higher for the LENT score than ECOG performance score at all time points for UK Cohort 1 (AUC at 1 month 0.62 and 0.55, respectively (p=0.17); AUC at 3 months 0.76 and 0.70, respectively (p=0.09); AUC at 6 months 0.84 and 0.82, respectively (p=0.43) (n=62)). For UK Cohort 2 the LENT score also performed better at all time points and this reached statistical significance for UK Cohort 2 at 3 months and 6 months (AUC at 1 month 0.73 and 0.56, respectively (p=0.23); AUC at 3 months 0.57 and 0.37, respectively (p=0.01); AUC at 6 months 0.65 and 0.55, respectively (p=0.05) (n=32)). However, these results should be interpreted with caution due to the small number of patients.

We would certainly advocate early palliative care involvement for patients with MPE due to lung cancer, particularly in view of the benefits conferred in a recent randomised controlled trial.[3] We hope that the LENT score will be useful, in conjunction with other clinical information to help guide multidisciplinary discussions, but need to stress this study has not addressed whether the LENT score is helpful in making oncological treatment decisions.

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