



## Commentary

**Pulmonary metastases, colorectal cancer, and survival: Accurate interpretation of the literature**

To the Editor:

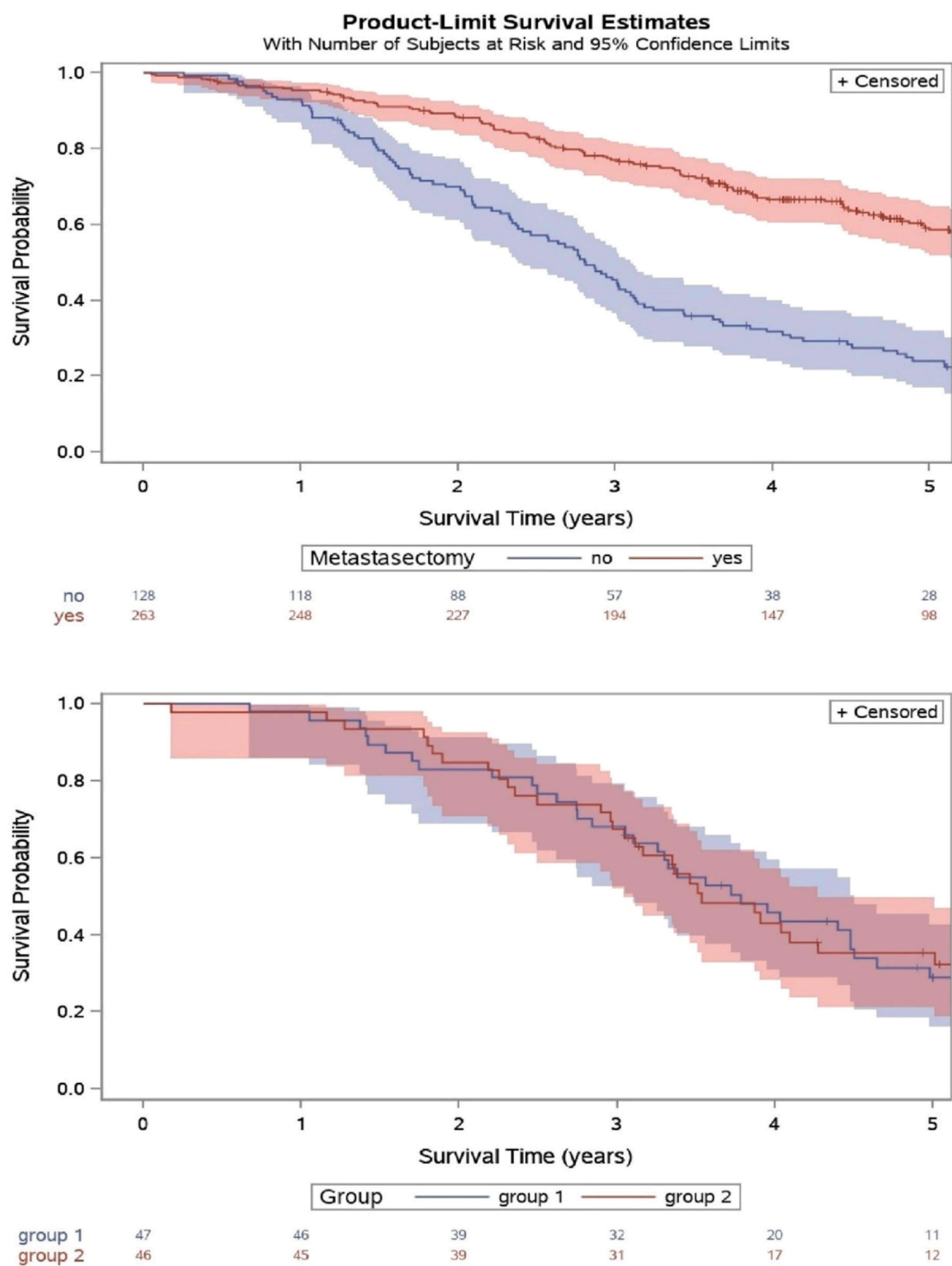
We were interested to see that the article by Chang et al. refers to the Pulmonary Metastasis in Colorectal Cancer (PulMiCC) randomized trial.<sup>1</sup> Unfortunately, it refers only to the initial publication of the results and not to a later publication<sup>2</sup> which included a larger number of patients, nor to the paper describing the broader context of the registration study<sup>3</sup> in which the randomized trial was nested. Our overall conclusions are that the survival of unoperated patients with pulmonary metastases is much better than widely believed and that survival largely depends on prognostic factors which also predict for the likelihood of selection for surgery<sup>4</sup>. If there is a survival benefit from pulmonary metastasectomy, it must be small and needs to be balanced against the adverse effects of surgery or ablation.

Chang et al. state: 'The PulMiCC randomized controlled trial demonstrated a survival benefit with lung metastasectomy in clinically appropriate patients with single pulmonary metastasis.' This is a serious misinterpretation of the results. There is nothing in the cited publication nor in the subsequent ones that could be interpreted as indicating that result. Bias needs to be studiously avoided or openly declared in academic writing and this is perhaps an example of optimism bias displayed by those who believe that surgical intervention for lung metastases is clinically effective. We remain skeptical, as explained in our Analysis of the PulMiCC study published in BMJ<sup>5</sup> and we reproduce with permission a graphical summary from that paper (Fig. 1).

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**Fig. 1.** Survival curves for patients in the PulMiCC study. Of 484 patients with colorectal lung metastases with baseline and follow-up data collected to trial standards, 263 were selected by the clinical teams for metastasectomy and 128 were selected to NOT have metastasectomy (upper panel). Those selected for surgery had fewer metastases, more did not have raised carcinoembryonic antigen, and they had better cancer stage, less liver involvement, better performance status, better lung function, and were younger. Their survival was similar to survival in the best of the many observational studies. In the nested controlled trial (lower panel) there was good balance for all known factors in the randomly assigned arms. There was no hint of a difference in survival. Source: BMJ 2023;383:e073042, copyright © 2023, The Author(s).

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## Ethics Statement

None

## Declaration of Competing Interest

The authors declare no conflicts of interest.

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