Comments on Predictors of Clinical Use of Pleurodesis and/or Indwelling Pleural Catheter Therapy for Malignant Pleural Effusion

To the Editor:

With great interest we read the study by Fysh et al1 in this issue of CHEST (see page 1629). Using both patient and fluid characteristics, they have been able to select patients who are likely to undergo definitive pleural therapy. The authors claim that this knowledge allows early selection of patients, avoiding repeated pleural procedures.

As Fysh and colleagues1 commented, these results are “the real-life prescription behavior of clinicians regarding definitive therapy.” Decisions to undertake definitive therapy are made by the physician together with the patient.

We question the use of a treatment modality as primary end point, as it is influenced by the physician him or herself. Decisions whether to perform pleurodesis or to insert an indwelling pleural catheter or not are not solely based on pH, large-size pleural effusion, mesothelioma, or age. For instance, we demonstrated prospectively that changes in patient-reported dyspnea scores after therapeutic thoracentesis were related to the need for reintervention, too.2 Thus, these predictors can be used together with the objective need for definitive pleural therapy.

We prospectively collected a database from patients with pleural effusions. More than 500 patients with pleural effusions were included. As is expected from a comprehensive cancer center, the majority of patients suffered from malignant pleural effusion. After excluding nonmalignant effusions, 381 patients were enrolled for this analysis. In this cohort, the majority of patients were women (232 of 381). Median age of patients was 61 years. Pleural effusion was predominantly right-sided (213 of 381). In contrast to the population described by Fysh and colleagues,1 our database consisted of more patients suffering from breast cancer (103 of 381), as previously reported.3 At the time of analysis, 42 patients were still alive without either pleurodesis or indwelling pleural catheter insertion, 170 patients (45%) underwent definitive treatment of recurrent malignant pleural effusion, and 169 patients died without a definitive treatment of pleural effusion. No data were available on recurrent thoracenteses.

Inspired by the referred study, univariate analysis of our data showed also a significant correlation with age (OR, 0.979; P = .017). Patients with higher protein levels were more likely to undergo definitive treatment of pleural effusion at some stage during their disease (OR, 1.021; P = .048). No information was available on pleural fluid pH.

We identified one other variable. Patients with bilateral pleural effusion (52 of 381) were more prone to have definitive pleural treatment than patients with unilateral pleural effusion. (OR, 3.884; P < .0001).

Aware of all potential predictive factors, clinicians may be able to inform patients in more detail on future therapies.

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References


Response

To the Editor:

Malignant pleural effusion (MPE) is a significant health-care burden. However, the care needs of individual patients vary. Some patients have rapid recurring MPEs with significant symptoms requiring definitive therapy (including pleurodesis or indwelling pleural catheter placement); in others, the effusion may recur slowly or not at all. The ability to identify early those patients who need definitive therapy can potentially allow more efficient care. Our study in this issue of CHEST found pleural fluid pH, large effusions, age, and mesothelioma to be associated with a greater likelihood of the patient receiving definitive therapy (defined as pleurodesis or indwelling pleural catheter treatment).

We thank Dr Boshuizen and colleagues for sharing their data and are glad to read that they had similar findings in their cohort. Importantly, they also found that only about one-half (45% in their study and 54% in ours) of the patients with MPE underwent definitive treatment, further highlighting the usefulness of a predictive tool. Dr Boshuizen and colleagues also found a higher pleural fluid protein level to be a predictor, similar to our finding on univariate analysis (OR, 1.03; \( P < .05 \)). Both studies identified age as a (weak) predictor. Our study identified pleural fluid pH as the most important predictor. Unfortunately, pH was not captured in the study of Dr Boshuizen and colleagues.

Our study did not intend to determine if the decision for definitive treatment was correct, but rather to identify trends in clinical practice that may then help guide physicians in the early initiation of treatment. We agree with Dr Boshuizen and colleagues that improvement in dyspnea following pleural fluid drainage is and should be the main factor influencing the decision to proceed with definitive therapy. Large prospective multinational databases registries are essential to help answer important management questions in MPE.

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