Primum non nocere and Malignant Pleural Effusions

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The abiding principle in the management of patients with malignant pleural effusions is to provide adequate palliation with the least amount of physical and mental discomfort and morbidity, i.e. harm. Historically, these patients have been managed with chest tube thoracostomy and chemical pleurodesis or thoracoscopy with talc poudrage or pleural abrasion. In this issue of *Respiration*, Musani et al. [1] present data that suggest that outpatient management of patients with malignant pleural effusions with small, tunneled pleural catheters may be an acceptable alternative.

In this study, 24 patients with malignant pleural effusions underwent placement of an indwelling, small-bore, tunneled pleural catheter (Pleurx, Denver Biomedical, Golden, Colo., USA). The outpatient procedure was performed in a bronchoscopy suite under local anesthesia and conscious sedation. The catheter is connected to a drainage system for evacuation of pleural fluid typically once a day or every other day. All of the patients experienced relief of dyspnea. Of the 19 patients who survived to the time of catheter removal or to the time of analysis, 10 (53%) achieved complete pleurodesis while 1 patient had partial pleurodesis. Three patients developed bacterial seeding of the pleural fluid requiring catheter removal and intravenous antibiotics, with 1 patient requiring standard chest tube drainage. Extension of malignancy along the catheter tract occurred in 1 patient. One patient

required a second pleural catheter to evacuate a large fluid loculation.

This study by Musani et al. [1] adds to a growing body of literature describing the use of an indwelling pleural catheter for management of malignant pleural effusions [2–4]. These studies uniformly note successful palliation of dyspnea in the vast majority of patients. In palliating these patients with malignant pleural effusions, it is obviously of benefit to the patient to undergo an intervention which can be performed on an outpatient basis as opposed to a procedure which requires hospitalization for several days and may not be completely effective. Of concern, however, are the complications, including cellulitis, pleural space infection, catheter obstruction and tumor seeding of the catheter tract, noted in all of these studies.

The ability to perform an intervention for palliation which requires no hospitalization is important in patients with malignant pleural effusions given the short life expectancy. A palliative intervention such as pleural catheter placement, which has potential morbidity, may not be the ideal procedure even though it can be performed on an outpatient basis. In patients with free-flowing effusions, we question whether thoracoscopy with talc poudrage should be preferred over insertion of an indwelling pleural catheter given the high success rate of thoracoscopy with a lower complication rate [5]. Although a brief hospitalization is required following thoracoscopy with

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talc poudrage, the duration of hospitalization is shorter than that with chest tube thoracostomy and chemical pleurodesis. In institutions that do not have the facilities to perform thoracoscopy, placement of an indwelling pleural catheter appears to be an appropriate option. For those patients who have a trapped lung, the experience with indwelling pleural catheters appears favorable and may be considered the treatment of choice by some physicians [6, 7]. As noted by Musani et al. [1], a National Cancer Institute-sponsored, multicenter, randomized trial comparing indwelling pleural catheters to talc slurry pleurodesis via chest tube thoracostomy is planned to provide additional information about the optimal management of patients with malignant pleural effusions.

We applaud the efforts of Musani et al. [1] to provide palliation for these patients and extend our knowledge about the utility of indwelling pleural catheters. What is the most optimal way to provide palliation will continue to be debated, but we must raise awareness among the medical community that there are options available to relieve the suffering of patients with malignant pleural effusions. We need to balance the efficacy of a procedure with the discomfort, time investment and morbidity the patient must endure to achieve that outcome. We as physicians must remember the words of Hippocrates, *primum non nocere* (first do no harm), as we take care of these patients.

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