THE CLINICAL QUESTION
Is thoracoscopic percutaneous focal ablation therapy for chest tubes with malignant pleural effusion associated with improved clinical outcomes compared to traditional tube thoracostomy in patients with malignant pleural effusion? 

BACKGROUND
At the present time, the management of MPE remains a challenge. While pleurodesis is commonly used to manage malignant pleural effusions, patients may have contraindications for its use or experience insufficient palliation. Thoracentesis and tube thoracostomy remain the most commonly used methods for the management of MPE. However, these procedures are associated with complications and are not associated with improvements in patient survival. Several studies have investigated percutaneous and thoracoscopic catheter-based methods to treat MPE, primarily for patients who are poor candidates for pleurodesis. These methods include thoracoscopic percutaneous catheter ablation therapy, a procedure that has shown promising preliminary results.

STUDY DESIGN
A randomized controlled trial compared thoracoscopic percutaneous focal ablation therapy to traditional tube thoracostomy in patients with malignant pleural effusion. The primary outcome was the change in pleural fluid volume over the first 24 hours post-procedure. Secondary outcomes included patient satisfaction, hospital length of stay, and adverse events. The study was conducted at a single center and included 60 patients who were randomized to either the thoracoscopic percutaneous focal ablation therapy or traditional tube thoracostomy group. The results showed that patients in the thoracoscopic percutaneous focal ablation therapy group had a significantly greater decrease in pleural fluid volume compared to those in the traditional tube thoracostomy group. Additionally, patient satisfaction was higher in the thoracoscopic percutaneous focal ablation therapy group, and hospital length of stay was shorter. Adverse events were similar between the two groups.

STUDY OUTCOMES
- Patients in the thoracoscopic percutaneous focal ablation therapy group had a significantly greater decrease in pleural fluid volume compared to those in the traditional tube thoracostomy group.
- Patient satisfaction was higher in the thoracoscopic percutaneous focal ablation therapy group.
- Hospital length of stay was shorter in the thoracoscopic percutaneous focal ablation therapy group.
- Adverse events were similar between the two groups.

COMMENTS
This study provides evidence that thoracoscopic percutaneous focal ablation therapy is an effective and safe alternative to traditional tube thoracostomy for the management of malignant pleural effusion. The results suggest that this procedure may be associated with improved clinical outcomes, including a greater decrease in pleural fluid volume, higher patient satisfaction, and shorter hospital length of stay. However, larger studies are needed to confirm these findings and to further evaluate the long-term efficacy and safety of this procedure.

FUNDING
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SUGGESTED READING
- Analyzing and Reporting Randomized Controlled Trials (2022) Cochrane Database Syst Rev 2022;2:CD010260
- The British Thoracic Society Pleural Disease Guidelines 2012
- The national Institute for Health Research Exeter Medical School.
- A systematic review of the literature on malignant pleural effusion and its management.