

EFFECT OF THORACOSCOPIC TALC POUDRAGE VS. TALC SLURRY VIA CHEST TUBE ON PLEURODESIS FAILURE RATE AMONG PATIENTS WITH MALIGNANT PLEURAL EFFUSIONS. A RANDOMIZED CLINICAL TRIAL JAMA / 2019



THE CLINICAL QUESTION Is thoracoscopy performed with local anesthesia

with talc poudrage more effective than a small bore-chest tube with talc slurry at inducing pleurodesis in patients with malignant pleural effusion (MPE)?

In patients with MPE, there is no significant difference in pleurodesis failure rates between

CONCLUSION

thoracoscopic talc poudrage compared with talc slurry delivered via a small-bore chest tube.



When diagnosed, the management of MPE remains palliative in nature. Median survival after diagnosis is highly dependent on the

BACKGROUND

- type of malignancy, but it can be as short as three to 12 months. In patients with known (or suspected) expandable lung, a common therapeutic endpoint is achieving pleurodesis. The apposition of the two pleural surfaces is needed for pleurodesis, which may not
- be achievable in a non-expandable lung. There is no strict definition of a non-expandable lung. One definition is the apposition of the lung to <50% of the lateral chest wall on chest radiographs. There are a variety of ways to achieve pleurodesis, including the local installation of talc. There is no consensus on whether talc poudrage or talc slurry is more effective in attaining pleurodesis in
- patients with MPE. This study helps to answer that question. Based on the latest American Thoracic Society, Society of Thoracic Surgeons, and Society of Thoracic Radiology joint clinical practice guideline, either chemical pleurodesis or an indwelling pleural catheter is recommended as the first-line definitive intervention for

management of dyspnea in patients with symptomatic MPE with

 The same document suggests that either talc poudrage or slurry can be used to achieve chemical pleurodesis, there is no universal recommendation for one modality overanother.

known or suspected expandable lung.



Poudrage group: Patients underwent a

poudrage or talc slurry

STUDY DESIGN

thoracoscopy under local anesthesia with complete drainage and inspection of the chest cavity with subsequent insufflation of 4gm of dry sterile, graded talc power with a view to achieving pleural coverage

Slurry group: Patients had a 12-14 Fr chest

Open-label randomized (1:1) clinical trial that

enrolled patients from 17 hospitals across the

United Kingdom into two study groups: talc

- tube inserted with ultrasound guidance followed by a chest radiograph performed 18-24 hours after drainage, 4 gm of sterile talc slurry was delivered through the chest tube Patients were followed for 180 days postrandomization or death Primary outcome was pleurodesis failure at 90
 - days after randomization (measured as the need for a post-intervention thoracentesis, chest tube for fluid management, pleural catheterization, or thoracoscopy of any kind)
- **POPULATION**

□ Baseline characteristics: o Poudrage group: n = 166, mean age 68 years, women 58%, current

thoracoscopy with local anesthesia

o Evidence of non-expandable lung

o Need for diagnostic thoracoscopy

Inclusion criteria:

☐ Exclusion criteria:

o Slurry group: n = 164, mean age 68 years, women 52%, current or former smoker 67%, WHO status 0 or 1 60%, underlying lung cancer 33%, patients included in primary analysis = 159

or former smoker 70%, WHO status 0 or 1 60%, underlying lung

cancer 36%, patients included in primary analysis = 161

o Adults >18 years of age with a confirmed MPE who could undergo

OUTCOMES

Primary outcome ☐ Pleurodesis failure at 90 days after randomization o Twenty-two percent (36/161) failure in the poudrage group o Twenty-four percent (38/159) failure in the slurry group

COMMENTARY Strengths: Large sample size for the study question, randomization

randomization between the two groups Adverse events: o No deaths attributable to either trial intervention

(25)

2)

Secondary outcomes: No statistically significant differences in the rates of pleurodesis failure at 30 days post-randomization, pleurodesis failure at 90 days post-randomization, number of nights spent in-hospital within 90 days of randomization, and

o Pneumonia/chest infection was the most

common complication in the poudrage group

o More cases of pleural infection noted in the poudrage group (6) than the slurry group (0)

removal more common in the slurry group (9 vs.

o Chest tube dislodgement/unintentional

all-cause mortality up to 180 days post

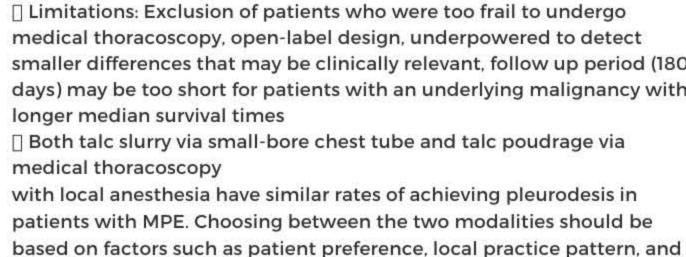
- medical thoracoscopy, open-label design, underpowered to detect smaller differences that may be clinically relevant, follow up period (180) days) may be too short for patients with an underlying malignancy with ☐ Both talc slurry via small-bore chest tube and talc poudrage via with local anesthesia have similar rates of achieving pleurodesis in
- The study was funded by the United Kingdom National Institute for Health Research and sponsored by North Bristol National Health Service Trust.

was performed with mitigation of important factors such as type of

malignancy and WHO performance status, opens the potential for

need for additional diagnostic information (i.e., diagnostic medical

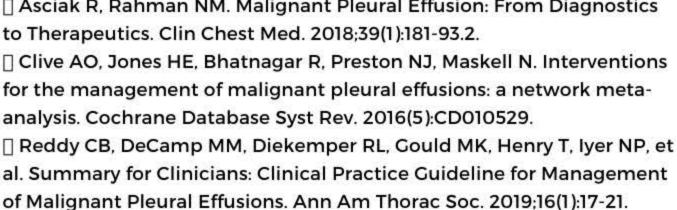
future MPE pleurodesis cost-effectiveness research



FUNDING

thoracoscopy prior to poudrage).

SUGGESTED READING Asciak R, Rahman NM. Malignant Pleural Effusion: From Diagnostics to Therapeutics. Clin Chest Med. 2018;39(1):181-93.2.





Bhatnagar R, Piotrowska HEG, Laskawiec-Szkonter M, Kahan BC, Luengo-Fernandez R, Pepperell JCT, et al. Effect of Thoracoscopic Talc Poudrage vs Talc Slurry via Chest Tube on Pleurodesis Failure Rate Among Patients

ARTICLE CITATION

With Malignant Pleural Effusions: A

Randomized Clinical Trial, JAMA, 2019.

Please contact Christian Chattas at christian.ghattas@osumc.edu