TIME to change: management of pleural disease

S19 INTERVENTIONS FOR THE MANAGEMENT OF MALIGNANT PLEURAL EFFUSIONS

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Aims Malignant pleural effusion (MPE) is a common clinical problem and a number of treatment options are available to manage these patients.

We undertook a systematic review of the literature and meta-analysis in order to ascertain the optimal management strategy for adults with symptomatic MPE.

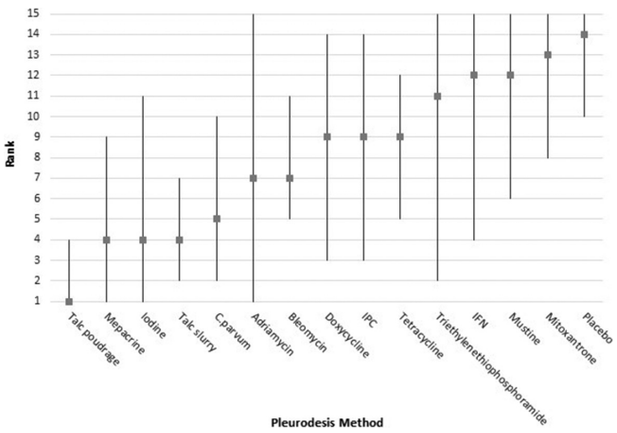
Methods We searched CENTRAL, MEDLINE, EMBASE, CINAHL; SCI-EXPANDED and SSCI (ISI Web of Science) databases to May 2015. We included randomised controlled trials of intrapleural interventions for adults with symptomatic MPE. Two review authors independently extracted the data and assessed the studies' risk of bias.

The primary outcome measure was pleurodesis failure rate. Secondary outcome measures were adverse effects and complications, patient reported control of breathlessness, quality of life, cost, mortality, duration of inpatient stay and patient acceptability.

We performed network meta-analysis with random effects to analyse the primary outcome data and those secondary outcomes with enough data. If this was not possible, we reported the results by narrative synthesis.

Results Of the 1888 records identified, 62 randomised trials, including a total of 3428 patients, were eligible for inclusion. All studies were at high risk of bias for at least one domain and the majority were unblinded.

Network meta-analysis evaluating the rate of pleurodesis failure suggested Talc Poudrage to be the most effective method (estimated rank 1 [95% CI 1, 4]). The estimated ranks of the other evaluated methods are shown in the Figure. The estimates were imprecise as evidenced by the wide credible intervals. Both statistical and clinical heterogeneity was high.



Abstract S19 Figure 1 Estimated ranks (95% Cr-I) for each of the pleurodesis methods from the main network meta-analysis

The secondary outcomes were inconsistently reported. Network meta-analysis was only performed for pain, fever and mortality and minimal evidence was obtained suggesting differences between treatments for these outcomes. Indwelling pleural catheters were examined in two RCTs, both reporting improved breathlessness when compared to Talc Slurry pleurodesis, despite lower pleurodesis success rates.

Conclusions Based on the available evidence, Talc Poudrage may be the optimal method for obtaining a pleurodesis in MPE. However, there is minimal evidence to suggest large differences between the next most effective methods. Global experience of these agents and their adverse events must also be considered when selecting a sclerosant.

S20 PRIMARY RESULT OF THE 1ST THERAPEUTIC INTERVENTIONS IN MALIGNANT EFFUSION (TIME1) TRIAL: A 2 × 2 FACTORIAL, RANDOMISED TRIAL OF CHEST TUBE SIZE AND ANALGESIC STRATEGY FOR PLEURODESIS IN MALIGNANT PLEURAL EFFUSION

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Background Optimal management of pleurodesis for malignant pleural effusion (MPE) has not been defined either in terms of optimal analgesia or chest tube size. Non-steroidal anti-inflammatory drugs (NSAID) are highly effective analgesics, but are avoided in pleurodesis as they may reduce pleurodesis efficacy. Smaller (<14 French) chest tubes may be less painful compared to larger chest tubes, but their efficacy in MPE pleurodesis has not been proven. This study investigated chest tube size (large versus small) and analgesia (NSAID versus opiate) in this setting.

Methods A 2 × 2 factorial, phase 3 randomised controlled trial in 320 patients with MPE undergoing pleurodesis. Patients were randomised to opiate/NSAID and 24 French drain/12 French drain. Co-primary outcomes were; pain while tube *in situ*, measured on 100 mm visual analogue scale (VAS) over 5 days (superiority comparison) and pleurodesis efficacy at 3 months (non-inferiority comparison, margin of non-inferiority 15%). Secondary outcomes included use of rescue analgesia, pleurodesis success to 6 months, adverse events and mortality.

Results 320 patients were randomised (63% male, mean age 71.8 years), with similar baseline characteristics. Mean VAS scores in opiate and NSAID groups were similar (adjusted mean difference, -1.5 mm (95% confidence interval [CI], -5.0 to 2.0; p = 0.40). Patients receiving NSAID required more rescue analgesia (38% vs. 26%). Pleurodesis failure occurred in 33/144 (23%) NSAID patients compared with 30/150 (20%) of participants receiving opiate, meeting criteria (15%) for non-inferiority (difference 3%; (90% CI -5% to 10%)). Smaller chest tubes