has been supportive observational evidence for the use of indwelling pleural catheters (IPCs) in the management of recurrent transudative effusions, but no randomised studies.

Methods A multi-centre randomised controlled trial, in which patients with pleural effusions secondary to either heart, liver or renal failure were randomly assigned to either an IPC (intervention) or therapeutic thoracentesis (TT) (standard care). The primary outcome was the mean daily breathlessness score over 12 weeks from randomisation, measured using VAS scores, labelled from 0 mm for 'Not breathless at all' to 100 mm for 'Worst possible breathlessness'

Results 68 patients were randomised over 4 years at 13 centres, comprising of 46 patients with heart failure; 16 with liver failure; and 6 with renal failure. In total 64 patients received their allocated treatment, 31 with IPCs and 33 with TT. In the primary-outcome analysis the mean breathless score over the 12-week study period was 39.7 mm (SD 29.5) in the intervention arm and 44.8 mm (SD 26.3) in standard care arm (p=0.71). The mean drainage was 2,878 ml (SD 2,505) and 16,215 ml (SD 17,980) in the TT and IPC group, respectively. The standard care group required 1.3 (1.4) additional aspirations during study period. Additionally, in the TT cohort, 3/33 (9%) subsequently required chest drain insertion, 2/33 (6%) IPC insertion, 1/33(3%) a medical thoracoscopy, and 1/33(3%) talc slurry pleurodesis. 1 IPC required re-siting in the intervention group. 37/64 (57%) patients were taking anticoagulation. The number of patients with one or more adverse events in the IPC group was 14/31 (45%), compared with 5/35 (14%) in the TT group. There was one case of IPC related infection, which did not necessitate drain removal. The number of bed days and hospital visits was not significantly different (p 0.30 and 0.31 respectively).

Conclusion Although IPCs did not offer greater control of breathlessness than repeated TT, they reduced the number of invasive pleural procedures. In this patient cohort with a poor prognosis, poor quality of life and who are typically anticoagulated, IPCs could be used to reduce further invasive procedure.

S43 PRELIMINARY RESULTS OF THE MESO-ORIGINS FEASIBILITY STUDY: RETROSPECTIVE ELEMENT REGARDING BAPE-MESOTHELIOMA EVOLUTION RATE

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Introduction Malignant Pleural Mesothelioma (MPM) is presaged by Benign Asbestos Pleural Effusion (BAPE) in some patients. In a future study (called Meso-ORIGINS) we will collect longitudinal BAPE-MPM tissue pairs in patients who develop MPM following BAPE and use this material in the PREDICT-Meso CRUK Accelerator programme. PREDICT-Meso will define the key biological events that drive or permit evolution of MPM, generate new pre-clinical models and define new therapeutic targets. At initial planning, the only data reporting BAPE-MPM evolution rate were derived from a single-centre study (n=44 BAPE patients) with wide confidence intervals around the estimate reported (12% (95%CI 5%–24%, Davies *et al*, 2010). Here we report the preliminary findings of a retrospective analysis performed as part of the multi-centre Meso-ORIGINS feasibility study. The primary objective was to define the BAPE-MPM evolution rate more precisely, to generate a reliable sample size estimate for Meso-ORIGINS.

Methods Patients were identified from databases in Glasgow, Oxford, Manchester & Bristol. Eligibility required 2-years complete follow-up data following a diagnosis of BAPE, which was defined as asbestos exposure (history or imaging) plus compatible histology (benign fibrinous pleurisy, non-specific pleuritis, atypical mesothelial proliferation). Comprehensive clinical data were recorded including demographics, radiological findings, blood and pleural fluid results. These will be used to build a logistic regression model for higher MPM evolution risk, to refine the eligibility criteria of the Meso-ORIGINS study. BAPE-MPM evolution was defined as any diagnosis of MPM within 2-years of the diagnosis of BAPE.

Results Data collection is complete in 3 of 4 centres. At the time of writing, data collection is complete in 207 eligible patients with BAPE. Mean (SD) age is 71.8 (9.7) years. 97% of cases are male. On baseline imaging, 64% had pleural plaques and 28% cases had features suggestive of pleural malignancy. The BAPE-MPM evolution rate was 30/207 or 14.5% (95%CI 9.9–19.9%).

Conclusions The final results of this study will allow optimal design of the Meso-ORIGINS study, which is a major component of the PREDICT-Meso CRUK Accelerator programme. If the BAPE-MPM progression rate is similar to the provisional rate reported here, this would translate into a feasible sample size.

S44 RISK FACTORS FOR RECURRENCE OF PRIMARY SPONTANEOUS PNEUMOTHORAX: ANALYSIS FROM THE RAMPP TRIAL

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Introduction and Objectives Primary Spontaneous Pneumothorax (PSP) is a common condition with a high recurrence rate (28–33%).[1, 2, 3] Current guidelines suggest referral for recurrence prevention surgery after the second episode. Identifying patients at greater risk of recurrence would allow a more stratified approach. A number of factors have been proposed previously, but none have been robustly proven. This study used a large prospectively collected dataset from the RAMPP (Randomised Ambulatory Management of Primary Pneumothorax) Trial[1] in the UK to assess risk factors for pneumothorax recurrence up to 12 months.

Methods The RAMPP dataset included 423 patients: 236 were managed actively (either ambulatory or standard care arms) and an observational cohort of 187 patients with small, minimally symptomatic pneumothoraces managed conservatively. A Cox proportional hazards model was used to assess risk of recurrence by the following variables: patient age, sex, size of initial pneumothorax, smoking history (tobacco and marijuana), personal history of prior pneumothorax history, family history and treatments given.