Abstract S14 Table 1 Demographic and clinical data of study patients. Data are summarised as number (proportion) mean $\pm$ standard deviation, or median [inter quartile range]

Variable	Group A	Group B
Age, years	41.3 $\pm$ 13.8	49.6 $\pm$ 14.2
Sex, female	7/18 (38.9%)	6/18 (33.3%)
RAPID score	2 [1-3.25]	3 [1.75-4]
Length of hospital stay, days	10.25 $\pm$ 3.32	11.44 $\pm$ 2.64
Time to from discharge to return to normal level of activity, days	10 [4.5-18] (N=8)	14.5 [4.5-18.5] (n=8)
Infection relapse, n	3/17 (17.6%)	2/17 (11.7%)

diagnosis, a three-week antibiotic course appears to be sufficient.

Registration NCT04615286

S15 EVOLUTION OF MESOTHELIOMA FOLLOWING INITIAL BIOPSIES SHOWING BENIGN PLEURAL INFLAMMATION: A META-ANALYSIS

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Introduction Malignant Pleural Mesothelioma (MPM) is typically preceded by chronic pleural inflammation, providing a unique window for translational research. Within the PRE-DICT-Meso International Accelerator Network, the Meso-ORIGINS (Mesothelioma Observational study of RiSk prediction and Generation of benign-meso tissue pairs, Including a Nested MRI Sub-study) study will recruit 500 asbestos-exposed patients with initial benign pleural biopsies. All will undergo detailed surveillance at ~20 UK sites, including repeat biopsies in the minority who evolve into MPM. These paired tissue samples will be used to define new therapeutic targets and develop new pre-clinical models for drug screening. Here, we integrate data from the 4-centre Meso-ORIGINS feasibility study regarding Benign-MPM evolution rate, with previously published literature. This data is being used to finalise the Meso-ORIGINS study design and site selection.

Methods Studies were identified on PubMed using the search terms 'non-specific pleuritis', 'benign fibrinous pleurisy' and 'mesothelioma'. The following data were extracted: publication year, number of benign pleuritis cases, number of subsequent evolutions, cohort entry criteria (including biopsy technique, asbestos exposure), median follow-up, country and region of origin, and study design (retrospective or prospective). A

random effects meta-analysis model was used to analyse the primary outcome; MPM evolution rate, with I^2 used to assess between-study heterogeneity.

Results 11 studies were identified. These data were combined with Meso-ORIGINS feasibility study data (42 evolutions from 257 benign cases (16%)),¹ generating a total of 189 evolutions from 2086 benign cases. The summary point estimate of MPM evolution was 6% (95% CI 4-10), see figure 1, which also confirms significant between study heterogeneity (I^2 80%, $p<0.01$).

Conclusion The Benign-MPM evolution rate varies in the reported studies, which show high inter-study heterogeneity. Sub-group analyses of individual study factors associated with higher MPM evolution rates are ongoing, including biopsy techniques (LAT vs VATS), median follow-up, geographical area in relation to MPM incidence and asbestos exposure frequency. These data will inform the site selection process during Meso-ORIGINS set-up.

REFERENCE

1. Ferguson K, Mercer R, King J, et al. S43 Preliminary results of the Meso-ORIGINS feasibility study: retrospective element regarding BAPE-mesothelioma evolution rate. *Thorax* 2021;**76**:A28.

Predictive tools for acute deterioration in COVID-19 and beyond

S16 PROGNOSTICATION IN HOSPITAL ACQUIRED PNEUMONIA – ARE CURRENT SCORING SYSTEMS FIT FOR PURPOSE?

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Introduction Non-ventilator hospital acquired pneumonia (NV-HAP) is the most common nosocomial infection in England. Evidence regarding prognostic factors in NV-HAP patients is limited. No NV-HAP-specific scoring systems that can identify patients at risk of poor outcomes are in widespread use. This study aims to identify factors associated with mortality and assess the accuracy of currently used scoring systems in NV-HAP patients.

Methods Diagnostic criteria for NV-HAP were adapted from the definition described in the 2016 American Thoracic Society/Infectious Diseases Society of America guidelines. Case notes of adult patients admitted to a tertiary hospital between 22nd November 2019–23rd February 2020 with an International Classification of Diseases (ICD)-10 coded diagnosis of NV-HAP were retrospectively screened. For patients that met the diagnostic criteria, clinical variables at the time of HAP diagnosis were recorded and four prognostic scores were calculated. The scoring systems assessed were: CURB65; National Early Warning Score 2 (NEWS2); Quick Sequential Organ Failure Assessment (qSOFA); and the Japanese Respiratory Society Immunodeficiency, Respiration, Orientation, Age, Dehydration (IROAD) score. The association between clinical variables and 30-day mortality was investigated using

Abstract S15 Figure 1