pleural tissue at each time point and summarised as Mean (+/-SD).

Pleural biopsies were obtained at MT in 8/9 patients who underwent complete CE-MRI. Paraffin-embedded tissue was available for 6/8 and stained with Factor VIII and CD34 immunostains. Blood vessel numbers and total vessel area were measured using quantitative image-analysis software (Leica Biosystems, U. K.) and correlated against contrast kinetic parameters (early SI increment (0–4.5 min) and peak SI), using Spearman's test. Patients were followed-up in a specialist pleural clinic and survival recorded.

Results Mean age was 75 years (+/- 7). 93% (n = 14) were male. Final diagnoses were: MPM (n = 6), lung adenocarcinoma (n = 1), breast adenocarcinoma (n = 1), renal cell carcinoma (n = 1), Benign Asbestos Pleural Effusion (n = 4), rheumatoid arthritis-related effusion (n = 1) and haemothorax (n = 1).

Figure 1 demonstrates relationships identified between contrast kinetic parameters and tissue vascularity. Mean follow-up was 267 (+/- 149) days, over which time mortality for MPM patients exhibiting early peak CE was 100% (n = 2/2) vs. 0% (n = 0/1) for late peak CE (log rank p = 0.2).

Conclusions We have established a functional MRI protocol for use in MPM. Within the limitations of this pilot study, early CE kinetics appear to reflect pleural tissue vascularity. Further work is ongoing to fully assess the diagnostic, prognostic and predictive value of this imaging biomarker.

S45   HOW SUCCESSFUL ARE MEDICAL THORACOSCOPISTS AT PREDICTING MALIGNANCY?

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Introduction Use of medical thoracoscopy by physicians to diagnose malignant pleural disease is increasing. Thoracoscopy is also used therapeutically to pleurodese (talc poudrage), at the time of biopsy, to minimise pleural effusion recurrence. However, this relies on the physician being confident of their diagnosis macroscopically.

A survey was conducted of regular thoracoscopists to establish the current practise related to medical thoracoscopy and a video of previous thoracoscopies (with known histology) was used to assess the accuracy of macroscopic evaluation of pleural disease.

Methods 20 video clips recorded during thoracoscopy in Oxford were combined into a short video (30 s per clip): including a selection of cases with malignant (13) and benign disease (7), intentionally including some cases which were deemed "unclear". A survey of thoracoscopists was conducted via email. Respondents were asked to state whether each clip showed malignant or benign disease, scoring their confidence in their diagnosis (out of 10), whether they predict trapped lung and if

they would perform pleurodesis. Gold standard of diagnosis was the histology result.

Results Procedural survey: 16 physicians responded from 12 tertiary referral centres: 13 consultants and 3 specialist registrars. 15 (94%) had performed >30 thoracoscopies each. Four institutions (25%) perform between >10 thoracoscopies per month; 12 (75%) between 1–10 per month. Only 6 (38%) perform thoracoscopies as day cases. All perform rigid rather than flexible thoracoscopies.

Video survey: Of the 20 video clips, the mean number of correct answers was 12.4 (62%). Respondents were more confident of their answers (out of 10) when correct (7.1/10) than incorrect (6.1/10). In cases deemed malignant, 69% would have performed talc pleurodesis; however, 17% would have pleurodesed patients who had benign disease (See Table). Respondents only correctly predicted trapped lung in 2.6/20 cases (13%).

Conclusion Despite being experienced thoracoscopists, only 62% correctly diagnosed malignant or benign on video clips. The majority would appropriately perform pleurodesis, but 17% may have inappropriately pleurodesed benign disease. There are limitations to this small survey using short thoracoscopy clips, but this data suggests caution is required when considering making diagnosis on macroscopic appearance and deciding whether the lung is trapped.

Basic mechanisms in COPD pathogenesis

S46   PHAGOCYTOSIS BY BLOOD NEUTROPHILS IS NOT ATTENUATED IN PATIENTS WITH CHRONIC OBSTRUCTIVE PULMONARY DISEASE

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Rationale All COPD phenotypes have airway neutrophilia but, despite this, bacteria associated infections are common, relate to decline and a significant proportion of patients have persistent airway colonisation. This is suggestive of innate immune dysfunction. *In vitro* studies have shown reduced neutrophil migratory accuracy in COPD (Sapey, Stockley *et al*. 2011) however, the ability of the neutrophil to contain bacterial infection upon arrival at a site of infection is poorly understood. Literature regarding the phagocytic ability of neutrophils from patients with COPD is conflicting and inconclusive. It is unclear whether responses change depending on the bacterial species present. We hypothesised that neutrophil phagocytosis during COPD is impaired, predisposing patients to increased inflammation and reduced bacterial clearance.

Methods Blood neutrophils were isolated from stable-state COPD patients and healthy age-matched controls (HC). Phagocytosis of both opsonised (with 10% pooled COPD serum) and unopsonised pHrodo™-conjugated *Staphylococcus aureus* bioparticles (SA, n =

Abstract S45 Table 1 Survey results: mean number of correct answers with mean level of confidence scores for the answers (those correct vs those incorrect), and whether the respondent would perform pleurodesis or not

Respondent's grade	Number (%)	Mean # of correct answers/20 (SD)	Mean level of confidence		All answers (/10)	Decision to Pleurodese	
			For correct answers (/10)	For incorrect answers (/10)		% in "Malignant"	% in "Benign"
Consultant	13 (81%)	12.8 (2.0)	7.1	6.1	6.7	74%	21%
Registrar	3 (19%)	11.0 (0.0)	7.1	6.3	6.7	48%	0%
Total / Overall	16 (100%)	12.4 (1.9)	7.1	6.1	6.7	69%	17%