Conclusion These results question the validity of following up LTBI patients at 3 and 12 months after diagnosis. Further longitudinal studies are needed to determine the optimum intervals for follow-up.

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P19 GENEXPERT MTB.RIF ASSAY IMPROVES THE DIAGNOSTIC YIELD OF EBUS-TBNA IN SMEAR-NEGATIVE INTRA-THORACIC TUBERCULOUS LYMPHADENOPATHY

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Introduction and Objectives Tuberculosis notifications in the UK continue to rise and the diagnosis of both disease and drug resistance can be challenging. Endobronchial ultrasound (EBUS) and EBUS-guided transbronchial nodal aspirates (TBNA) have been shown recently to be a safe and effective tool in the diagnosis of intra-thoracic TB lymphadenopathy. New molecular techniques, notably the GeneXpert MTB.Rif system (Cepheid) have shown great promise in the diagnosis of pulmonary disease but have not been evaluated in intra-thoracic nodal disease.

Methods As part of an ongoing study, consecutive patients with intra-thoracic lymphadenopathy were prospectively studied within our tertiary EBUS service between January 2010 and March 2011. In addition to standard cytological and micro-biological investigations, a single GeneXpert MTB.Rif assay was performed on EBUS-TBNA samples. Using established methods, a final diagnosis was given of definite/highly probable TB, possible TB or not TB/alternative diagnosis. Performance of the GeneXpert MTB.Rif assay was then evaluated in the context of these final diagnoses.

Results 74 patients (3 HIV-positive) underwent EBUS-TBNA sampling. Nineteen have been diagnosed with definite/highly probable TB to date. A single GeneXpert assay had a sensitivity of 67% (8/12) from culture-positive TBNA. 11/15 (73%) of patients with a positive culture from any tissue and 13/19 (68%) patients classed as definite/highly probable TB had positive GeneXpert results. One case of confirmed MDR-TB was correctly identified and treatment started promptly. Fifteen patients had positive GeneXpert MTB.Rif results from EBUS-TBNA: 13/15 were given immediate TB treatment. One of the remaining two cases without strong microbiological or cytological findings was subsequently diagnosed with active tuberculosis supported by evidence of PET-positive mediastinal lymph nodes. The other case appears not to have active disease and remains under follow-up.

Conclusions A single GeneXpert MTB.Rif assay has good sensitivity in the context of culture-positive intra-thoracic tuberculous lymphadenopathy and can provide an immediate diagnosis of likely MDR-TB. Positive PCR results were seen in two patients where conventional techniques were inconclusive and in one provided the main support for the diagnosis. These results suggest the addition of the GeneXpert MTB.Rif assay to the investigation of intra-thoracic nodal disease improves diagnostic yield.

Sleep: clinical studies

P20 IMPACT OF PATIENTS' PERCEPTION OF PROBLEM DRIVING, SYMPTOMS AND SEVERITY OF OBSTRUCTIVE SLEEP APNOEA SYNDROME (OSAS) ON OUTCOMES ON AN ADVANCED OFFICE BASED DRIVING SIMULATOR

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Introduction Currently advice about an OSAS patient's fitness to drive is based upon the severity of the condition, with or without objective measure of daytime sleepiness and their account of their driving. Although there is a trend towards increased likelihood of accidents with more severe OSAS, this is not sufficiently robust data. There are conflicting data about the relationship between perceived sleepiness and the likelihood of being involved in an accident. Recently we have established that it is possible to identify with high degree of certainty a group of OSAS sufferers who perform significantly worse than others using specific simulator parameters on an advanced office based driving simulator (miniSim). We now explore the impact of patients' perception of problem driving, demographic, clinical, and polysomnographic characteristics on the outcomes of the simulator test.

Methods 133 (52±10 yrs, ESS 12±5, AHI 29±21) patients completed a detailed driving related questionnaire and performed a 90 km motorway driving scenario on the miniSim. Two events were programmed to trigger evasive actions, one subtle (Veer event) where an alert driver should not crash, while with the other (Brake event) even a fully alert driver might crash. There were three possible outcomes of the simulator runs; "fail", "indeterminate" and "pass". The questionnaire responses, demographic, clinical and polysomnographic characteristics were compared between the three outcome categories using one way ANOVA. Logistic regression was performed to explore whether a "fail" could be predicted from any of these data.

Results The results of one way ANOVA are described in Abstract P20 table 1. Patients who fail the simulator test tend to report more sleepiness while driving with a higher ESS & ODI. They also have more, but statistically insignificant, near misses and history of accidents. None of this information could predict a "fail" accurately in the logistic regression analysis.

Abstract P20 Table 1 Distribution and outcomes of one way ANOVA of clinical parameters and scores for questionnaire categories

	Fail (n=32) Mean (SD)	Indeterminate (n=47) Mean (SD)	Pass (n=54) Mean (SD)	One way ANOVA p Value
Clinical parameters				
Age (yrs)	50 (11)	50 (10)	55 (10)	0.05
BMI (kg/m^2)	34 (6)	35 (8)	34 (5)	0.33
ESS	13 (6)	12 (5)	10 (5)	**0.03**
AHI (events/h)	34 (24)	30 (23)	25 (16)	0.2
ODI (events/h)	39 (27)	35 (28)	23 (15)	**0.01**
Scores for different questionnaire categories				
Sleepiness while driving	12 (11)	7 (8.5)	7 (8.3)	**0.03**
Nods/rumble	1.22 (1.47)	0.78 (1.19)	0.77 (1.34)	0.27
Accidents/near misses	0.75 (1.39)	0.78 (1.69)	0.46 (0.86)	0.42
Coping strategies	7.1 (4.3)	6.7 (4.9)	6.6 (4.5)	0.69

AHI, Apnoea Hypopnoea Index; BMI, Body Mass Index; ESS, Epworth Sleepiness Score; ODI, Oxygen Desaturation Index.

Conclusions These data confirm that patients' accounts and perception of their own driving and the severity of their OSAS may

not be reliable predictors of safe driving. Whether poor performance on an advanced driving simulator is predictive of poor on road performance needs to be established.

P21 DOES TIME OF DAY AFFECT OUTCOMES ON AN ADVANCED OFFICE BASED DRIVING SIMULATOR IN PATIENTS WITH OBSTRUCTIVE SLEEP APNOEA SYNDROME (OSAS)?

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Introduction Road traffic accidents (RTA) are known to peak at certain times of the day especially early afternoons. OSAS patients are at higher risk of being involved in RTA. Recently we have established that it is possible to identify with high degree of certainty a group of OSAS sufferers who perform significantly worse than others using specific simulator parameters on our advanced office based driving simulator (miniSim). We now explore whether the time of day when the study is performed affects simulator outcomes.

Methods 205 (52±10 yrs, ESS 12±5, AHI 33±22) patients performed a 90 km motorway driving scenario on the miniSim. Two events were programmed to trigger evasive actions, one subtle (Veer event) where an alert driver should not crash, while with the other (Brake event) even a fully alert driver might crash. There were three possible outcomes of the simulator runs; "fail", "indeterminate" and "pass". "Fail" was defined by any crash other than at the brake event and/or inability to complete the test. Comparisons were made between the patient populations performing the test before & after 12:00 in terms of demographics, symptoms & severity of OSAS. Outcomes on the simulator, lane position & reaction times were also compared between these groups.

Results There were no differences between the patients performing at the different time slots in terms of age, BMI, ESS & AHI (Abstract P21 table 1). The number of "fails", "indeterminates" & "passes" during morning & afternoon runs were: 16/26/70 (n=112) & 22/30/41 (n=93). Patients performing in the afternoon were no more likely to fail the test than those doing it in the morning (Fisher's exact test p=0.1). There were no differences in terms of lane position or reaction times (p=0.38, 0.65).

Abstract P21 Table 1 Comparing patients performing before and after 12:00 h

Parameters	Patients performing before 12:00 h (n=112) Mean (SD)	Patients performing after 12:00 h (n=93)	p Values (t tests)
Age (years)	52.7 (10.5)	52.2 (10.5)	0.74
BMI (kg/m^2)	34 (6.3)	35 (7)	0.25
ESS	11 (6)	12 (5)	0.15
AHI (events/hour)	32.6 (23.3)	32.7 (20)	0.96
ODI (events/hour)	32.6 (22.5)	35.4 (24)	0.41
SDLP (metres)	0.42 (0.15)	0.44 (0.13)	0.38
VeerRT (sec)	1.63 (0.54)	1.59 (0.47)	0.65

AHI, Apnoea Hypopnoea Index; BMI, Body mass index; ESS, Epworth Sleepiness Scale; ODI, Oxygen Destauration index; SDLP, Mean of SD of lane position; VeerRT, Reaction time at the Veer event.

Conclusion The results indicate that the time of day the study is performed is unlikely to affect outcomes on this driving simulator. It has implications for its clinical use as the test can performed at any time of the day.

P22 DO OBSTRUCTIVE SLEEP APNOEA (OSA) PATIENTS WITH NORMAL EPWORTH SCORES COMPLY WITH CONTINUOUS POSITIVE AIRWAY PRESSURE (CPAP) THERAPY?

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Introduction Current recommendations suggest CPAP treatment in patients with OSA and excessive daytime sleepiness. The Mosaic trial showed a reduction in Epworth Sleepiness Score (ESS) in minimally symptomatic patients although there was no change in cardiovascular risk. However, patients with significant co-morbidities and objective evidence of severe OSA are often treated. The treatment compliance of patients with a normal ESS is not well established. We reviewed compliance with CPAP therapy in patients with OSA with an ESS <10 who were started on treatment due to a variety of indications.

Methods Review of CPAP compliance on the Sleep medicine database in patients diagnosed with OSA and ESS <10 from July 2008 to December 2009.

Results 86 patients with OSA and ESS <10 were started on CPAP. Indications for CPAP included daytime somnolence, morning headache, distressing apnoeic events, diabetes mellitus with complications, significant ischaemic heart disease, cerebrovascular accidents, COPD and renal failure. 33 patients (38%) had mild OSA, 33 (38%) had moderate OSA and 20 (24%) had severe OSA. The mean ESS in the mild, moderate and severe groups were 6.3, 5.4 and 5.5 respectively.27 patients (31%) were noncompliant. In this group, CPAP was withdrawn at 2 weeks in 23 patients and at 3 months in four patients. 59 patients (69%) continued to be on treatment and have had symptomatic improvement. Mean ESS in the compliant group decreased from 5.7±2.6 to 1.3±1.8 (p<0.001) post treatment. 45 (76%) of the compliant patients had an average daily CPAP usage >4 h with a mean ESS change from 5.5 to 1.1. 14 (24%) patients using CPAP <4 h found symptomatic improvement with a mean ESS change from 6.3 to 2.0. Overall in the compliant group, the mean Oxygen Desaturation Index and Apnoea Hypopnoea Index decreased by 71% and 76% respectively.

Conclusion Over two-third of patients with low ESS and symptoms/significant co-morbidities were compliant with CPAP therapy. All patients had improvement in ESS on treatment. A trial of treatment in this group of patients with a low ESS appears to be worthwhile.

P23 500 CONSECUTIVE REFERRALS TO A DGH SLEEP SERVICE: HOW USEFUL IS THE EPWORTH?

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Introduction and Objectives Our sleep service offers assessment and treatment of sleep-disordered breathing (SDB). Our commissioners suggested that patients with an Epworth Sleepiness Score (ESS) = 9 did not require assessment. We assessed the characteristics of patients referred and usefulness of baseline ESS. All patients referred for assessment of SDB were entered onto a database prospectively from October 2009 to June 2011. Baseline data recorded was: referral source, demographics, ESS, sleep study type, oxygen desaturation index >4% (ODI), study interpretation, treatment decision.

Results 500 patients were referred, most commonly by GP (n=349), endocrinology (n=50), respiratory (n=34) and ENT (n=29). 365 patients were male, mean age (±SD) 51.3±13.5 years. 476 patients