Results 30 split-night studies were undertaken on 10 infants (8 female) aged 0.06–1.79 (mean 0.79, SD 0.44) years. At baseline (ie, air), children with PWS had a mean (SD) central apnoea index (CAI) of 6.9 (6.3) per hour, with accompanying falls in SpO_2. Oxygen therapy led to statistically significant reductions in CAI, as well as improved SpO_2 (Abstract P198 Table 1). No significant change in the number of obstructive events was noted.

Abstract P198 Table 1 Effect of oxygen therapy on sleep-disordered breathing in infants with PWS

	Air	Oxygen	p-Value*
% Study with SpO_2 <90%	1.5 (3.8)	0.2 (0.4)	<0.05
Lowest SpO_2 (%)	77 (8)	89 (6)	0.06
Longest central apnoea (s)	10.3 (4.2)	9.8 (3.7)	0.68
Maximum $tcCO_2$ (mm Hg)	56.5 (7.5)	55.3 (12.5)	0.58
Central apnoea index (CAI)	6.9 (6.3)	3.7 (4.2)	<0.001
Obstructive event index (OEI)	3.9 (4.1)	5.4 (8.7)	0.37

*Paired *t*-test.

Discussion Infants with PWS have sleep-disordered breathing problems, which are predominantly central in origin, and cause significant hypoxia in some patients. Improvements in both central event indices and oxygenation were noted on oxygen therapy. Longitudinal work with this patient group would help to establish timing of onset of obstructive symptoms. Whether early recognition of central hypoventilation, and correction with oxygen alter the evolution of respiratory dysfunction and excessive daytime somnolence in later life remains to be seen.

P199 DIABETIC MACULAR OEDEMA (DME) AND OBSTRUCTIVE SLEEP APNOEA (OSA)—VISUAL IMPROVEMENT POST CPAP THERAPY. PROOF OF PRINCIPLE STUDY

doi:10.1136/thx.2010.151043.50

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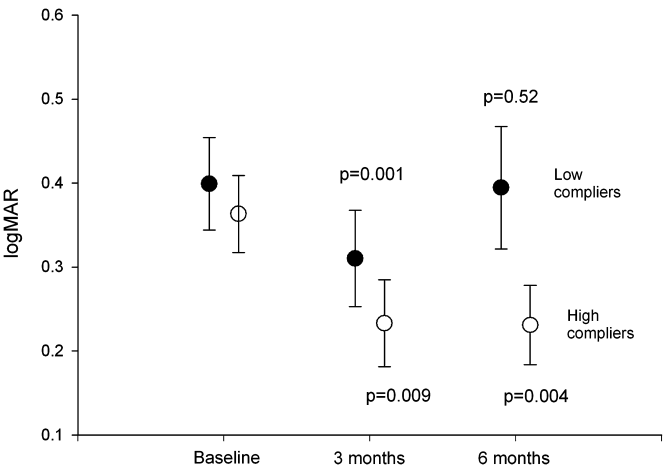
Introduction and Objectives DME is an important cause of visual loss and is more advanced in patients with coexistent OSA.[1]OSA is very common in individuals with DME (54%), compared to unselected patients with type II diabetes (23%)[2] and age matched controls (8%).[3] This study was designed to see if CPAP could improve vision in patients with DME and coexistent OSA, perhaps via a reduction in intermittent hypoxia and/or blood pressure oscillations.

Methods 35 patients with DME (identified by ocular coherence tomography, OCT) and OSA (oxygen desaturation index >10, or apnoea hypopnoea index >15) were identified. Visual acuity (VA, logMAR, similar to the Snellen chart) and OCT measurements were made twice at baseline (pre-CPAP), 3 and 6 months (post-CPAP).

Results 32 patients (17 males) participated; 4 withdrew. 28 have 3-month follow-up data and, 24 have 6-month data. Average (SD) age 66.6 years, (8.3), BMI 31.8 Kg/m^2 (6.7), HbA1c 7.5% (1.4%), ESS 7.9 (4.6), ODI 20.9 (14.8) and AHI 19.0(14.5). CPAP compliance was averaged over the 6 months and a median split into 'high' and 'low' compliers performed (> and <2.5 h/n). At 3 months VA improved significantly in both high (p=0.009) and low compliers (p=0.001). This was only sustained at 6 months in high compliers, p=0.004. (Low compliers p=0.52). There was no significant reduction in macular oedema at either 3 or n.

Conclusions This hypothesis-generating uncontrolled study indicates that continued use of CPAP in individuals with DME and OSA was associated with sustained improvement in visual acuity. This result provides justification to perform an RCT and suggests that logMAR should be the primary endpoint whereas OCT measurements appear uninformative.



Abstract P199 Figure 1 LogMAR after CPAP use, high versus low compliers (mean ± SEM).

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P200 SNORING AND CAROTID ATHEROMA: NO ASSOCIATION

doi:10.1136/thx.2010.151068.1

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Background Obstructive Sleep apnoea (OSA) has increasingly been linked to cardiovascular endpoints including hypertension, stroke, myocardial infarction, and carotid atherosclerosis. Snoring is strongly associated with OSA. More recently, the snoring component of OSA, by producing local arterial trauma, has been independently linked to the presence of carotid but not femoral atheroma,[1] and to acute carotid trauma in an animal model.[2] The aim of this study was to identify whether this relationship could be established retrospectively in a high vascular risk cohort of individuals with a recent cerebrovascular event (TIA or stroke).

Method Participants with a recent TIA or stroke in the Oxford Vascular Study (OXVASC) completed an entry questionnaire which included frequency of snoring (never, rarely (1–2/year), occasionally (4–8/year), sometimes (1–2/month), often (1–2/week), usually (3–5/week) and always (every night). A subset of 316 individuals (aged 62–84 years), with both a completed snoring questionnaire and carotid Doppler data, were included. This information was used to retrospectively assess a potential relationship between presence and severity of snoring, and degree of carotid artery stenosis and plaque type (echogenic/echolucent/mixed, calcified/non-calcified and smooth/irregular).

Results 160 out of 316 participants were male, mean (SD) age 73.2 (11.22). No significant association could be identified between intensity of self-reported snoring and degree of carotid stenosis or plaque morphology.

Conclusions No significant association could be identified between snoring and carotid atheroma. There are no obvious explanations for the discrepancy between this study and previous work, except that the original study measured snoring objectively during a one night