significance; in a few cases perhaps representing spurious values. Recurrent (≥ 3 desaturations/24 hours) with/without more serious desaturations ($<90\%$ SpO₂) occurred in 6.2% (4/65). Oxygen was prescribed for only one-third of patients (35.4%; 23/65), but was administered to three-quarters (75.4%; 49/65) typically as a gradual 'down-titration' of high-flows given in recovery rather than in response to desaturation. Some patients remained on oxygen despite sequential SpO₂ values of 100%. Strong opiates were frequently prescribed (93.8%; 61/65), sometimes with night sedation (9.2%; 6/65).

Comment British Thoracic Society national guidelines encourage oxygen administration titrated to SpO₂, but we show that this aim may not currently be fully realized in surgical patients, perhaps partly due to lack of routine oxygen prescribing. Encouragement of early oxygen prescribing by surgeons and anaesthetists, who already routinely prescribe thrombo-prophylaxis, prophylactic antibiotics and analgesia, might help to ensure that patients are set-up for better matching of oxygen administration to need for the duration of their post-operative recovery.

Diagnosis and management of TB

P48 VITAMIN D LEVELS ARE NOT ASSOCIATED WITH MARKERS OF INFLAMMATION AND DISEASE SEVERITY IN ACUTE TUBERCULOSIS

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Background There is considerable evidence that patients with clinical tuberculosis in the UK have low levels of circulating Vitamin D¹. It has been suggested that acquired Vitamin D deficiency impairs immune function and therefore allows patients to transform from latent to clinical tuberculosis. Sceptics have suggested that the low Vitamin D levels seen in clinical tuberculosis are a result of disease activity rather than a cause of it. We examined whether Vitamin D levels were associated with blood markers of inflammation and disease severity inpatients newly diagnosed with tuberculosis.

Methods All patients diagnosed with tuberculosis at an inner London teaching hospital since 2000 were eligible for inclusion in the study although systematic measurement of Vitamin D levels has only been attempted in recent years. Vitamin D levels were classified as deficient ≤ 10 ng/ml, insufficient >10 to <30 ng/ml and sufficient ≥ 30 ng/ml.² The date treatment started was recorded. The first blood measurement of Vitamin D, Haemoglobin, Neutrophil count, c-reactive protein(CRP), erythrocyte sedimentation rate (ESR) and albumin taken within two weeks of treatment starting were recorded. All variables were assessed for correlation with one another using Pearson's correlation coefficient in SPSS.

Results One thousand four hundred and twenty two patients were identified of whom 262 had a measurement of Vitamin D. 151 (58%) were Vitamin D deficient and a further 96 (37%), Vitamin D insufficient. Data availability ranged from 1266 patients with a serum albumin to 222 patients with an ESR. Blood markers of disease severity and inflammation were significantly correlated but Vitamin D levels did not correlate with any of the other variables.

Discussion These data do not support the hypothesis that low Vitamin D levels in acute tuberculosis are a result of disease activity or severity. It would be reasonable to consider the prevention of Vitamin D deficiency as a means to reduce the conversion of latent to clinical tuberculosis.

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P49 TUBERCULOSIS IN BIRMINGHAM IS SEASONAL

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Background Birmingham is a large industrial city with migrant populations from Pakistan, India, Somalia and Eritrea. Central Birmingham is highly endemic for tuberculosis (TB) with an annual

Abstract P48 Table 1 Correlation between Vitamin D levels and markers of inflammation and disease severity amongst patients presenting with tuberculosis at an inner London teaching hospital

		Neutrophil count at diagnosis	Platelets	ESR	CRP	Albumin
Vitamin D levels (ng/ml)	Pearson Correlation	-0.042	-0.084	0.294	-0.076	0.061
	Sig. (2-tailed)	0.506	0.185	0.269	0.361	0.326
	N	253	254	16	148	257
Neutrophil count at diagnosis	Pearson Correlation		0.363**	0.221**	0.311**	-0.166**
	Sig. (2-tailed)		0.000	0.001	0.000	0.000
	N		1252	219	811	1237
Platelets	Pearson Correlation			0.183**	0.100**	-0.001
	Sig. (2-tailed)			0.006	0.004	0.963
	N			221	813	1240
ESR	Pearson Correlation				0.514**	-0.522**
	Sig. (2-tailed)				0.000	0.000
	N				134	220
CRP	Pearson Correlation					-0.311**
	Sig. (2-tailed)					0.000
	N					813

** p<0.01

Figure 1. Seasonal tuberculosis notifications adjusted for the effect of long term trend. Vertical interrupted lines mark winter months.

Abstract P49 Figure 1

incidence 80 per 100,000. TB is therefore a disease of major public health importance in Birmingham.

Objectives We sought to determine the contribution of seasonal variation to TB incidence in Birmingham.

Methods Information was collected prospectively on all adult TB notifications for Birmingham covering the thirty-year period from 1980 to 2009. Unmeasured component models were used to decompose incidence data into seasonal and long term trends.

Results There were 10,892 cases of tuberculosis notified during the study period from winter 1988/9 to autumn 2009. There was strong evidence for seasonality in tuberculosis notifications with peaks occurring every summer (Figure 1, AICD 10.5). This seasonality was apparent in both pulmonary and extra pulmonary tuberculosis (AICD 12.1 and 11.0, respectively). There was no support for seasonality in UK-born cases (AICD -12.0), but seasonality was apparent in non-UK born cases (AICD 11.8).

Discussion and Conclusion TB notifications peak every summer and may plausibly be linked to conditions in the preceding winter. Winter crowding may lead to increased transmission of tuberculosis, which then manifests as active TB in the summer. Alternatively, reduced exposure to sunshine during the winter and decreased vitamin D levels may result in impaired host defence to tuberculosis. The potential link between seasons and vitamin D levels is interesting, because vitamin D supplementation of at-risk populations is a plausible public health intervention.

P50 PITUITARY GRANULOMATA - TB OR NOT TB

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Granulomatous disease of the pituitary gland is rare and of this pituitary tuberculosis (TB) is the rarest, making its diagnosis or exclusion challenging. We discuss six cases. Patients ages ranged between 25–43; 3 were male. 3 were born in UK, the others in

Afghanistan, Bangladesh and Somalia respectively. 5 patients presented with headaches, two of whom had bitemporal haemianopia and one also had diabetes insipidus; one presented with cervical lymphadenopathy and diabetes insipidus. 3 had weight loss, pyrexia and night sweats. All had MRI scanning; 4 patients showed thickening of pituitary stalk and intense enhancement of the gland, one had a presumed macro-adenoma and another had a cystic mass. 5 patients had trans-sphenoidal surgery (TSS); 3 for diagnostic biopsy, one for urgent decompression of a pituitary mass, another for the macro-adenoma. One had cervical lymphnode biopsy: histology demonstrated granulomatous inflammation in 4 samples, one also had focal necrosis, another was culture positive for AFB. 4 patients had lumbar puncture: CSF cultures for MTB and PCR were non-diagnostic and CSF-ACE was negative; one sample showed lymphocytosis. One patient had abnormal CXR with cavitating lesions and mediastinal lymphadenopathy. 5 patients had vasculitic screens which were negative. All 5 patients who had TSS were left with hypo-pituitarism and on hydrocortisone replacement. The main differential diagnosis was TB or sarcoidosis. 4 patients were treated with anti-TB therapy (ATT) and high dose steroids for one year. The one who grew MTB was treated with ATT alone. The sixth had ATT for six months as well as high dose steroids. Pituitary TB is very rare and only 50–60 cases are reported in literature where not all patients treated with ATT cultured MTB; Imaging modalities are non-specific and show thickening of pituitary stalk and intense post contrast enhancement of the gland as with our patients but this is commonly described in other infections and neoplasm as well. Diagnosis is therefore difficult and challenging and tissue biopsy or microbiology may even not be conclusive. A multidisciplinary discussion of these patients is crucial.

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