Abstract P182 Table 1

	Inpatient	Elective outpatient	Missing data
Indication for IPC:			
Lung cancer	5	16	
Mesothelioma	7	14	
Other cancer	26	22	
Benign or unknown	1	6	1
Number of IPCs	43	59	
IPC: number removed	10 (23%)	17 (29%)	3 drain still *in situ*, 1 displaced
Removed due to spontaneous pleurodesis	3 (7%)	5 (8%)	
Median days *in situ* until removal (range)	97.5 (3–168)	92.5 (22–340)	1 unknown
IPC *in situ* at time of death	31 (72%)	35 (59%)	5 lost to follow up
Median days *in situ* until death (range)	22 (7–317)	79 (2–346)	

Conclusion The TIME2 cost analysis was based on a median stay of 0 nights which has been replicated in our hospital this year. The optimisation of community support and increasing confidence with the procedure led to reductions in inpatient stays.

The rate of IPC removal was substantially less common in our cohort and the indication for removal was often not due to spontaneous pleurodesis alone unlike the TIME2 trial. Indications for removal included infection, pain and blockage as well as pleurodesis. The data from our centre did not exclude any patients, including those who died, and the follow up period often continued beyond 6 months.

Some large differences exist between the TIME2 trial data and our cohort. While this could reflect a different patient population and setting, it could also highlight differences in outcomes between controlled clinical trials and day-to-day practice.

REFERENCE

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TB: non pulmonary and hepatotoxicity

P183 ENDOBRONCHIAL ULTRASOUND AND TUBERCULOSIS: BEWARE THE NON-CASEATING GRANULOMA

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Introduction Endobronchial ultrasound-guided transbronchial needle aspiration (EBUS-TBNA) is now the standard of care for investigating intra-thoracic lymphadenopathy. Although well validated in malignancy and sarcoidosis, the literature for intra-thoracic tuberculous lymphadenitis is limited. Previous work from neighbouring London boroughs reported a sensitivity (histology or microbiology consistent with tuberculosis (TB)) for TB of 94% with positive TB culture in 47% of 156 patients

Methods We examined retrospectively all EBUS-TBNA procedures performed at a London district general hospital between April 2010 and January 2014. Patients were referred to our EBUS service from our own hospital and two local centres. All patients were assessed clinically prior to the procedure and underwent a CT scan. Bronchoscopy reporting software was used to identify all EBUS procedures. Patient notes, clinic letters, electronic patient records and the London TB Register (LTBR) were used to obtain clinical information then matched with pathological and microbiological results. All patients were followed up for a minimum of 6 months.

Results 363 patients were included. The overall sample yield (either lymph node or tumour identified) was 94%. 63 cases of tuberculosis were identified and EBUS-TBNA had been diagnostic in 57 (90%). Pathological findings were consistent with TB in 84% of cases and culture was positive in 62%. Culture identified 5 cases of drug resistance. Where caseating granulomas were identified, 18/25 cases were culture positive and 15/23 where non-caseating granulomas were identified (p = 0.76). In addition, where necrotic material was obtained 3/5 samples were culture positive and where reactive lymph nodes were identified 4/9 samples were culture positive.

Conclusion EBUS-TBNA is a useful tool in the investigation of intra-thoracic tuberculous lymphadenitis. We show the possibility of achieving higher culture positivity from that reported in the literature. It highlights the importance of the TB culture for definitive diagnosis and detecting drug resistance. It is important to examine these findings in the context of appropriate clinical information and investigations.

P184 FEMALE GENITAL TUBERCULOSIS: THE LONG ROAD TO DIAGNOSIS

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Introduction Female genital tuberculosis (TB) is rarely encountered in the UK but early diagnosis and treatment can prevent significant morbidity.

Methods We conducted a retrospective study of all patients treated at our institution for female genital TB between 2004 and 2014. Data including demographics, symptoms, microbiological and histological diagnoses and treatment outcomes were recorded.

Results 10 cases of female genital TB were identified. These account for approximately 0.71% of our TB cases, giving a local incidence of female genital TB of approximately 0.5/100,000 population. Mean age was 37.9 +/-14.3. Five patients were from Bangladesh, two from India and one from Pakistan, Cyprus and Somalia. Mean duration of symptoms prior to diagnosis was 24.3 months, range: 0–84. Presenting symptoms included infertility (50%), menorrhagia (10%), amenorrhoea (20%), irregular menstrual bleeding (40%), dyspareunia (20%), vaginal discharge (10%), post coital bleeding (10%) and lower abdominal pain (50%). Patients also experienced fevers (30%), night sweats (10%) and weight loss (10%). All patients had either a laparoscopy or hysteroscopy with biopsy of the endometrium in nine cases and the ovary in one case. Seven cases were found to have necrotising granuloma on biopsy of which two were positive for Ziehl-Neelson (ZN) staining, two were negative and three were not performed. Non-necrotising granuloma was seen in one case and histology was unrecorded for two cases but PCR was positive in both these biopsies. Samples were sent for culture in three cases and all had fully sensitive TB. All cases were treated with standard TB treatment. In two cases treatment is ongoing. One patient died from a co-existing condition. Seven patients completed treatment, of which four had full symptom

resolution, two remain under the infertility team and one has ongoing abdominal pain. Median treatment duration was six months.

Conclusion This case series highlights the delay in diagnosis and the significant morbidity – particularly infertility – experienced by patients with genital TB. Samples were frequently not sent for culture. Raising awareness of TB within obstetrics and gynaecology and highlighting the importance of considering TB in patients from high incidence countries may help reduce diagnostic delay for these women.

P185 IMPROVING THE ACCURACY OF MICROBIOLOGICAL DIAGNOSIS OF TB LYMPHADENITIS – IS A MULTIDISCIPLINARY APPROACH NECESSARY?

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Introduction The gold standard for diagnosing tuberculosis (TB) is from culture of the organism from fluid or tissue. Histological analysis of surgical specimens is well-established, but microbiological analysis is less frequent. Our trust serves a population with a high incidence of TB. Therefore, patients who present with lymphadenopathy should always be considered for a diagnosis of TB and all specimens sent for microbiological and histological diagnosis.

Methods A retrospective analysis was undertaken of all patients diagnosed with TB lymphadenitis between 2009–2013 using the London TB Register (LTBR), case notes and laboratory data to identify the proportion diagnosed with microbiology data compared with histology data.

Results 324 patients were diagnosed with TB lymphadenitis from LTBR, of which 73% (235/324) had lymph node (LN) specimens taken for microbiological or histological diagnosis.

233 patients had extrathoracic disease alone, of which 62% (144/233) had LN tissue sent for microbiology with 74% yielding a positive culture. 75 patients had intrathoracic disease, of which 31% (23/75) had LN tissue sent for microbiology with 52% yielding a positive culture. In both groups, a greater percentage of LN tissue was sent for histo-cytological analysis than microbiology (see figure).

75% (12/16) of patients with combined extrathoracic and intrathoracic disease had specimens sent for microbiology. 83% (11/16) gained a positive microbiological diagnosis from lymph node sampling.

Abstract P185 Table 1 Table demonstrating numbers of patients with TB lymphadenitis having lymph node samples sent for microbiological or histological analysis and diagnostic yield

2009 - 2013	Number & Percentage of samples sent for culture			Number & Percentage of samples with positive culture		
	M NLN	M LN	H LN	M NLN	M LN	H LN
Combined	25% (4/16)	75% (12/16)	81% (13/16)	25% (1/4)	83% (10/12)	62% (8/13)
Intrathoracic	28% (21/75)	31% (23/75)	45% (34/75)	14% (3/21)	52% (12/23)	44% (15/34)
Extrathoracic	11% (25/233)	62% (144/233)	71% (165/233)	36% (9/25)	74% (106/144)	62% (103/165)

M = Microbiology
H = Histology
LN = Lymph Node
NLN = Non Lymph Node

Conclusion Microbiological specimens were more likely to be sent in patients with extrathoracic disease compared to those with intrathoracic disease. This may partly be explained by the fact that all intrathoracic lymph node sampling during this study period was undertaken at other centres, mostly through referrals from the lung cancer MDT. Therefore TB may not have been considered as a possible diagnosis.

However, a significant proportion of surgical samples taken locally did not have microbiology specimens sent, which potentially may have impacted on treatment outcomes.

This review highlights that more education should be undertaken locally with surgical and radiology departments and the lung MDT, emphasising the need for all lymph node specimens to be sent for both microbiological and histological analysis.

P186 INTRATHORACIC LYMPH NODE TUBERCULOSIS – A COMPREHENSIVE CLINICAL DESCRIPTION

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Background Intrathoracic lymph node tuberculosis (ITLNTB) is an extra-pulmonary manifestation of tuberculosis (TB) and a predominant feature of primary TB in children. Historical literature supports the key role of lymph nodes in tuberculosis pathogenesis yet there is a paucity of literature describing ITLNTB in adults.

Methods This study comprehensively reviewed the clinical, radiological and pathological features of ITLNTB from 2009–2012 at a busy urban tuberculosis clinic.

Results 113 adult patients with ITLNTB were identified between 2009–2012. Patients were usually male, with a mean age of 41.5 ± 15.8 years and mostly from White, Black-African or Indian ethnic groups. 86% were non-UK born and most presented within 5–10 years of entering the country. 43% were asymptomatic. A subgroup of patients who were mycobacterial culture positive on endobronchial ultrasound sampling (EBUS) of intrathoracic lymph nodes were identified as patients with definite mycobacterial infection of the lymph nodes (n = 27).

Comparisons between symptomatic and asymptomatic groups in the whole cohort and EBUS culture positive subgroup demonstrated significant associations between symptoms and disease dissemination ($p = 0.0002$ and $p = 0.01$ respectively); and symptoms and cytological response in the lymph nodes ($p = 0.02$ and $p = 0.01$ respectively), suggesting the presence of a spectrum of disease reflected in congruent clinical and pathological responses (Table 1). Comparisons between disease sites affected also showed a significant association between host response in the lymph nodes and disease dissemination ($p = 0.006$).

The presence of radiological necrosis, number of affected nodal stations, and largest node size were significantly greater in symptomatic patients in the whole cohort; with a similar trend observed in the EBUS culture positive subgroup.

In the EBUS culture positive subgroup, asymptomatic patients were identified significantly earlier following entry to the UK ($p = 0.01$).

Discussion This study provides the first comprehensive clinical description of ITLNTB in adults. There is a spectrum of disease