reduce overall costs and may identify patients earlier, protocol based isoniazid prophylaxis is effective in preventing active tuberculosis.

**Conclusion** While Isoniazid prophylaxis was effective in prevention of subsequent tuberculosis, screening prior to transplantation should have identified both patients who developed TB.

## P111 OLDER PATIENTS WITH TUBERCULOSIS HAVE LESS TYPICAL CHANGES ON CHEST RADIOGRAPHS

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**Introduction and objectives** It has been suggested that TB has a different phenotype in older patients with age-related changes to the cell-mediated immune response and co-existent organ dysfunction. Older patients with tuberculosis (TB) may have different radiographic features than younger patients; this may lead to less immediate suspicion of TB resulting in delays to diagnosis and starting treatment. We wanted to identify if there are differences in the most common radiological differences in older and younger patients with pulmonary TB (PTB).

**Methods** Patients with PTB > 65 were noted from the London TB register between 2002 and 2015. A random selection of younger patients aged 18–40 with PTB were also identified. All available chest x-ray (CXR) reports were obtained from online radiology systems. CXR features were classified according to reported features with particular note of cavitation, nodules and miliary changes, consolidation, lymphadenopathy and effusions.

**Results** The CXR reports of 239 patients with PTB < 65 and 99 patients with PTB > 65 were collated. Demographic details as well as CXR changes are detailed in Table 1. Cavitation, lymphadenopathy and effusions were more common in younger patients whereas consolidation was more evident in older patients. Upper zone involvement was similar in both groups.

**Conclusions** Studies by other groups have suggested a higher proportion of cavitation and upper zone changes in younger patients with TB with less specific changes in older patients. This may lead to less suspicion of TB and potentially a longer infective period; this is important given that 23% and 19% of younger and older patients have smear positive PTB. In our study, the proportion with upper zone changes are similar though cavitation is more frequent in younger patients. Of note, is the much higher presence of lymphadenopathy and effusions seen in younger patients. This may potentially be related to differences in the immune function of both groups or primary infection versus reactivation. These findings re-enforce the need for clinical suspicion for PTB in both older and younger patients with both specific and non-specific radiographic changes.

**Abstract P111 Table 1**

| **Total number of patients with CXR reports** | **525** | | **184** | |
|---|---|---|---|---|
| Median age (IQR) | 30 (26–34) | | 73 (69–78) | |
| Gender | 196 female, 329 male | | 79 female, 105 male | |
| UK born | 45 (8.6%) | | 13 (7.1%) | |
| Pulmonary TB patients | 239 (45.5%) | | 99 (53.8%) | |
| **CXR changes** | **Number** | **Percentage** | **Number** | **Percentage** |
| Cavitation | 36 | 15.1 | 10 | 10.1 |
| Consolidation | 104 | 43.5 | 50 | 50.5 |
| Nodules | 39 (7 miliary) | 16.3 | 14 (4miliary) | 14.1 |
| **Lymphadenopathy** | 43 | 18.0 | 4 | 4.0 |
| Hilar | 19 | 7.9 | 4 | 4.0 |
| Mediastinal | 9 | 3.8 | – | – |
| Paratracheal | 14 | 5.9 | – | – |
| **Effusion** | 59 | 24.7 | 8 | 8.0 |
| **Zone of involvement** | | | | |
| Upper zone involvement | 118 | 49.4 | 49 | 49.4 |
| Upper and lower | 21 | 8.8 | 17 | 17.1 |
| Lower | 59 | 24.7 | 31 | 31.3 |
| **Microbiology** | | | | |
| Cultured MTB | 158 | 66.1 | 67 | 67.7 |
| Smear Positive | 56 | 23.4 | 19 | 19.1 |
| Fully sensitive | 146 | 61 | 61 | 61.6 |
| INH resistant | 7 | 2.9 | 1 | 1.0 |
| MDR | 1 | 0.4 | | |
| XDR | 1 | 0.4 | | |
| **Diabetes** | 2 | 0.8 | 28 | 28.2 |

## P112 SERUM INFLAMMATORY BIOMARKERS AS PREDICTORS OF TREATMENT OUTCOME IN PULMONARY TUBERCULOSIS

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**Background** The aim of this study was to evaluate C-reactive protein(CRP), globulin and white cell count as predictors of treatment outcome in pulmonary tuberculosis.

**Methods** An observational study of patients with active pulmonary tuberculosis was conducted at a tertiary centre. All patients had serum CRP, globulin and white cell count measured at baseline and two months following commencement of therapy. The outcome of interest was requirement for extension of therapy beyond 6 months.

**Results** There were 226 patients included in the study. Serum globulin >45 g/L was the only baseline biomarker evaluated that independently predicted requirement for therapy extension (OR 3.59 (1.79–7.57; p < 0.001)). An elevated globulin level that failed to normalise at 2 months was also associated with increased requirement for treatment extension(63.9% versus 5.1%; p < 0.001) and had low negative likelihood ratio(0.07) for exclusion of requirement for therapy extension. On multivariable analysis, an elevated globulin that failed to normalise at 2 months was independently associated with requirement for therapy extension (OR 6.12 (2.23–16.80); p < 0.001).

**Conclusions** Serum globulin independently predicts requirement for treatment extension in pulmonary TB and outperforms CRP and white cell count as a predictive biomarker. Normalisation of globulin at two months following treatment commencement is associated with low risk of requirement for treatment extension.