

Older patients with Tuberculosis have less typical changes on chest radiographs

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Background

It has been suggested that tuberculosis (TB) has a different phenotype in older patients with age -related changes to cell-mediated immune response and co-existent organ dysfunction. Older patients with tuberculosis may have different radiographic features resulting in delays to diagnosis and starting treatment.

The aim of the study is to identify radiological differences between older and younger patients with pulmonary TB (PTB).

Method

Patients >65 year old and randomly selected younger patients aged 16-65 diagnosed with PTB between 2012 and 2016 were identified in Bradford TB registry for comparison. All chest X-ray (CXR) reports were obtained from online radiology systems and changes like cavitation, nodules and military changes, consolidation, lymphadenopathy and effusions were compared between the two age groups.

Results

The CXR reports and microbiology test results of 100 younger and 50 older patients with PTB were reviewed. Demographic, CXR changes and microbiology results are shown in the Table 1-3 A higher proportion of lymphadenopathy was found in the younger group whereas consolidation and upper zone involvement was more evident in the older patients. Cavitation, nodule and pleural effusions were similar between both age groups

Conclusions

Other studies have suggested a higher proportion of cavitation and upper zone changes in younger patients with less specific changes in older patients with TB, however; in our cohort the proportion of cavitation were similar between the two age groups and higher proportion of upper zone changes were noted in older patients. We noted a higher proportion of lymphadenopathy in younger patients. These finding re-inforce the need for clinical suspicion for PTB in both groups with both specific and non-specific radiographic changes.

	Younger patients (No:100)	Older patients (No.50)
Mean age	67.4(66-97)	37(16-65)
Gender	66 male,35 female	26 male, 22 female
Ethnicity	69 South Asian, 17 East European, 14 white British.	39 South Asian, 6 East European, 5 white British

Table 1

CXR changes	Younger patients (No:100)	Older patients (No.50)
Cavitation	28 (28%)	13 (26%)
Consolidation	39 (39%)	24 (48%)
Nodule	16 (16%)	9 (18)
Lymphadenopathy	25 (25%)	8 (16)
Effusion	16 (16%)	8 (16%)
Upper Zone involvement	59 (59%)	35 (70%)
Middle Zone involvement	15 (15%)	6 (12%)
Lower Zone involvement	20 (20%)	6 (12%)

Table 2

Microbiology	Younger patients (No:100)	Older patients (No.50)
Smear positive	38 (38%)	12 (24%)
MTB cultre	76 (76%)	32 (64%)
Fully sensitive	74 (74%)	30 (60%)
INH resistant	2 (2%)	0
MDR	0	1 (2%)

Table 3