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CLINICAL, RADIOLOGICAL AND MICROBIOLOGICAL PROFILE OF ELDERLY PULMONARY TUBERCULOSIS PATIENTS IN TERTIARY CARE TEACHING HOSPITAL AT BAREILLY (U.P)

Pulmonary Medicine

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ABSTRACT

Setting-Elderly population affected with pulmonary tuberculosis ,hospitalized at a tertiary care teaching hospital in Bareilly ,Uttar Pradesh.
Objective-To evaluate clinical, radiological, microbiological and laboratory parameters of PTB among elderly(>60 years) patients.
Results- There was a male preponderance with mean age of 66.59 years, almost all coming from rural areas, most with no defined source of income (84.72%),with 37.93% and 15.27 having been ever smokers and ever alcoholics and 36.45% afflicted with diabetes. Cough (77%), fever (65%),breathlessness (64%) ,anorexia (37.93%) and weakness (27.58%)were the commonest symptoms. 146 patients (71.92%) were microbiologically confirmed with Auramine-o staining. Radiologically Infiltrates were the commonest lesion and there was a upper and mid zone predominance of X-ray lesions. As much as 18% patients had to be prescribed non standard regimens.
Conclusions- Elderly patients of PTB presented with recognized clinical and radiological features of disease, but a fair number had to be prescribed non standard regimens.

KEYWORDS

Pulmonary Tuberculosis, Elderly patients etc.

INTRODUCTION

It is understood that the clinical and radiological presentations of pulmonary tuberculosis in the elderly are non specific and atypical, leading to delayed diagnosis and treatment and increased mortality. The present study was aimed to look into the clinical, microbiological and radiological features of pulmonary tuberculosis in elderly population.

MATERIALS AND METHODS

The present study was a retrospective analysis of 203 elderly pulmonary tuberculosis patients admitted in SRMS Institute of Medical Sciences, Bareilly over a two year period from Jan 2015-Dec 2016.The data variables included Residence, addictions, biochemical abnormalities, symptomatology, microbiology, radiological features and treatment regimens offered. Patients who were found smear positive on fluorescent staining and those diagnosed with PTB on clinical and radiological grounds were included. Patients with HIV seropositivity, malignancy and immunosuppressive medications were excluded. Symptoms along with duration were noted along with addictions and other relevant medical history. Complete hemogram, renal functions and liver function test blood sugar were tested along with a Chest Radiograph. Sputum smears and bronchial wash was stained with Auramine-O stain.Regimens offered to patients were noted down.

RESULTS

Out of 203 patients, 146 (71.94%) were male and 57 (28.08%) were female. Mean age were 66.59 ± 7.08 yrs. less than half(37.93%) patients were ever smokers,15.27% were actively consuming or had consumed alcohol in past. Almost all patients belonged to rural areas (Tehsil,block or village level), 115 patients had no source of income ,being dependent on family members,26 were pensioners and 5 had small buisnesses.74 patients were diabetics including 19 newly diagnosed.Past history of Anti tuberculosis treatment was obtained in 32 patients.

Cough was the most common symptom(77%) followed by fever(65%), breathlessness (64.03%), anorexia(37.93%), chest pain(20.68%), hemoptysis (21.18%) and weakness(27.58%)Table-1.

Table 1: Distribution of elderly tuberculosis patients according to baseline characteristics

Characteristic		N=203	%
Gender	Male	146	71.92
	Female	57	28.08
Age	Mean ± SD	66.59 ± 7.08	
	Median	65	
	Range	60 – 95	
Smoker	Ever (Current+Past)	77	37.93
	Never	126	62.07
Alcohol	Ever (Current+Past)	31	15.27
	Never	172	84.73
Diabetes	Newly diagnosed	19	9.36
	Known diabetic	55	27.09
	Non-diabetic	129	63.56
Symptoms	Cough	157	77.34
	Fever	132	65.02
	SOB	130	64.03
	Anorexia	77	37.93
	Chest pain	42	20.68
	Hemoptysis	43	21.18
	Weakness	56	27.58
	N/V	22	10.83
	Weight loss	52	25.61
	Dysphagia	11	5.41

Symptoms were present for a considerable time before patients were assessed here, with cough, shortness of breath and fever present for a mean duration of 76.45 ,59.14 and 45.59 days respectively Table-2.

Table 2: Distribution of study subjects according to duration of symptoms on presentation

Symptoms	Duration (days)	
	Maximum	Mean ± SD
Cough	365	76.45 ± 95.495
Shortness of breath	365	59.14 ± 89.584
Fever	180	45.59 ± 50.603
Anorexia	180	14.23 ± 31.750
Chest pain	180	14.00 ± 39.007

Out of 203 patients, 146 (71.92%) patients were confirmed microbiologically positive through auramine-o stain. In 146 microbiologically positive patients, 142 (69.95%) were detected from sputum and 4 were detected from bronchial wash as given in Table-3.

Table 3: Distribution of study subjects based on sputum microscopy

Microscopy		Total	
		N	%
Sputum	**Negative**	57	28.09
	Scanty	19	9.35
	1+	45	22.16
	2+	44	21.67
	3+	34	16.74
Bronchial wash +		4	1.97
Total		203	100.0

Radiologically infiltrates were the most common lesions seen in 45.81% cases, followed by consolidation in 21.67% and fibrocavitary lesions in 15.27%. Other lesions were cavity, miliary shadows, bronchiectasis, destroyed lung, lobar collapse and mass lesion. There was a upper and mid zone preponderance 73.89% cases. Lower zone lesions were seen in only 3.44% cases while in remaining 22.66% the lesions were diffuse Table-4.

Table 4: Distribution of study subjects according to type of lesion and zonal distribution in chest X-Ray

Lesion	Frequency	Percentage
Infiltrates	93	45.81
Consolidation	44	21.67
Fibrocavitatory	31	15.27
Cavity	14	6.89
Miliary	9	4.43
Destroyed lung	5	2.46
Lobar collapse	3	1.47
Mass	2	0.98
Bronchiectasis	1	0.49
Nodular	1	0.49
Total	**203**	**100.0**
Zonal distribution		
Upper and Mid	150	73.89
Lower	7	3.44
Diffuse	46	22.66
Total	**203**	**100.0**

117 patients were initiated on regimen for new cases (HREZ) and 29 on retreatment regimen(SHREZ). 10 registered under DOTs and remaining on non-DOTs. 38 patients had to be prescribed alternative regimens irrespective of their status as new or retreatment patients because of deranged LFT at time of diagnosis , GI intolerance or intolerance to any ATT, most commonly pyrazinamide. 6 patients died and 2 left before ATT could be started Table-6.

Table 6: Distribution of patients based on treatment offered

Treatment offered			N	%
DOTS		CAT 1	8	3.4
		CAT 2	2	0.7
Non DOTS	**New patients**	RHEZ	109	57.9
		RHE	19	11.0
	Retreatment	SHREZ	27	13.8
	Alternative regimens	SELEVO	10	4.8
		ELEVO	2	0.7
		HE	2	0.7
		SHELEVO	2	0.7
		SHRE	3	0.7
No treatment			8	5.5
Total			203	100.0

DISCUSSION

Pulmonary tuberculosis in elderly often present with atypical clinical and radiological features. [1]. Such presentations have led authors to suggest that PTB in elderly be considered as a separate entity[2]. Atypical presentations in elderly can lead to delayed diagnosis and mortality[3,4]. A meta-analysis of 12 studies revealed no differences were found between older and younger TB patients with respect to male predominance, evolution time before diagnosis, prevalence of cough, sputum production, weight loss, fatigue/malaise, radiographic upper lobes lesions, positive acid-fast bacilli in sputum, anemia or hemoglobin level, and serum aminotransferases. A lower prevalence of fever, sweating, hemoptysis, cavitary disease, and positive purified protein derivative, as well as lower levels of serum albumin and blood leukocytes were noticed among older patients. In addition, the older population had a greater prevalence of dyspnea and some concomitant conditions, such as cardiovascular disorders, COPD, diabetes, gastrectomy history, and malignancies[5]

In current study too there was a male preponderance,similar to other studies [5,6] symptoms were similar to those seen in younger age group, more than two third cases were detected on smear microscopy, the radiological lesions were confined to upper lung field in more than three fourth cases.

Cough,shortness of breath and fever were the commonest presenting symptoms in our study.This was in contrast to obeservations in several studies where there was more occurrence of constitutional symptoms like anorexia,weight loss and less occurrence of fever[7,8,9,10].

Smoking is associated with an increased risk of developing TB and studies have found a larger percentage of elderly patients being smokers[11].In our study 37.93% patients were ever smoker.

In our study,radiologically there was a clear upper zone preponderance and infiltrates, consolidation and cavity were the commonest lesions.Some atudies have reported no major radiological differences in elderly PTB patients[12,13] while others have reported a higher incidence of involvement of mid and lower zone[7,14,15].

Raised aminotransferases and GI intolerance led to prescription of nonstandard regimens in a significant number of cases. There were six deaths in hospital before initiation of anti-tuberculosis treatment.

We would also like to emphasis on the fact that an overwhelming majority of patients belonged to non-urban locales and that most of them had no clear source of income.

Major limitation of study was lack of follow up of patients as the centre cares to a population spread over two states and Nepal .Web based information portal Nikshay is expected to cover up for such deficiency in future.

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