

## **ASSI TB Research Project**

An Initiative of the ASSI research wing

**Introduction:** Tuberculosis of spine is one of the oldest diseases afflicting humans. India has a large number of TB spine cases which are being treated by various consultants as per their experience and expertise. However there is no uniformity in the treatment methods, duration of treatment and other such protocols followed across the country. The data collection is also inadequate. The concept of ASSI TB registry was hence created with a dedicated ASSI fellow assigned the task of maintaining data of TB spine cases.

**Aims:** To collect, maintain and analyze data of TB spine cases from various consultants all over the country in order to try to design uniform protocols for treatment. We also aim to observe any changing trends in the disease agent or disease characteristics and propagate the information early.

**Project Head: Dr Arvind Jayaswal**

**Project coordinator : Dr Abhay Nene**

**ASSI fellows:** Dr Vishal Kundnani (Aug 07 till Jan 08), Dr Uday Pawar (Feb 08 – Jul 08) and Dr Ashutosh Sabnis (Aug 08 – Jan 09).

**Date of commencement: August 2007**

**Current status:** Presently, the total number of cases collected is 354 at the end of 1 year 5 months. The contributions from various consultants/hospitals is as follows: Dr Abhay Nene – 66, Dr S Y Bhojraj – 23, Dr Arvind Jayaswal – 38, Dr Mihir Bapat – 23, AIMS hospital Kochi – 11, Dr Bharat Dave – 55, GTB hospital – 7, Dr H S Chabra -2, Dr Narayan Acharya – 2, Dr P Patni – 1, Dr Ram Chadda – 16, Dr Salil Saha – 2, Dr Shadaab Ahmer – 7, Dr Shankar Acharya –

20, Dr Sheetal Mohite – 1, Dr Siddharth Badve – 4, Dr Suresh Korahalli – 3, Ganga Hospital – 18, AIIMS hospital, Delhi - 45.

### **Interim Analysis of the cases –**

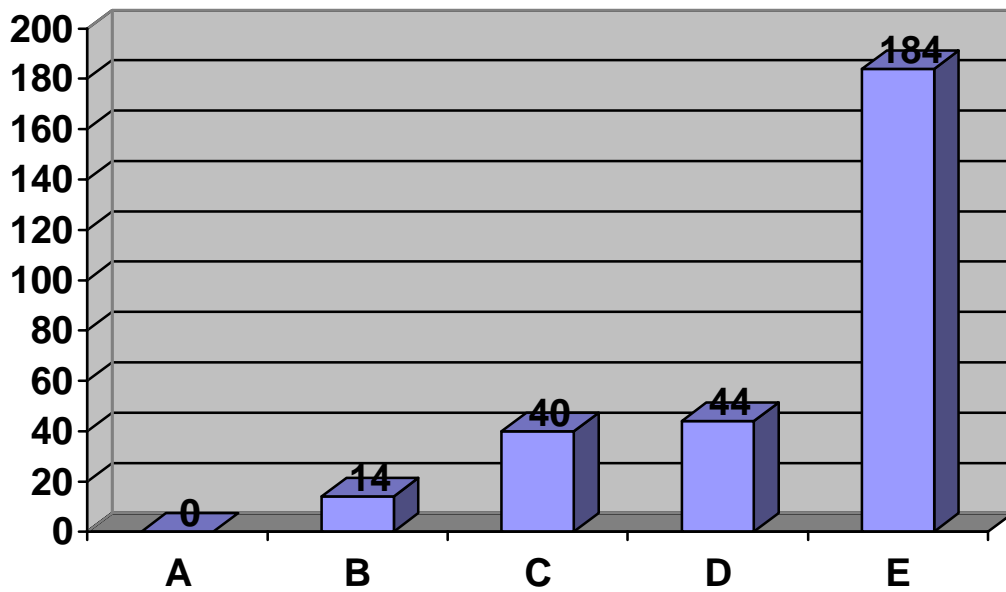
An analysis of 288 cases is presented. There were 151 male and 149 female patients. The ages of the patients varied from 1.5 years to 82 years. The age-wise distribution of the patients is presented in the table 1 below –

<b>Age group</b>	<b>Number of patients</b>
0-10	15
11-20	43
21-30	56
31-40	41
41-50	42
51-60	46
61-70	31
71-80	10
81-90	2
Total	290

Spinal tuberculosis was found at various levels in the spine including skip lesions. A detailed analysis of the same is presented in the table below -

<b>Level of lesion</b>	<b>Number of patients</b>
O-C1-C2	8
Cervical	18
Cervico-thoracic junction	3
Thoracic	122
Thoraco-lumbar junction	22
Lumbar	95
Sacral	6
SI joint	4
Skip lesions	10
Total	288

Deformity due to tuberculosis was found in 47 patients of which 45 patients had kyphotic deformity and 2 patients had scoliotic deformity. The number of patients presenting with bowel or bladder complaints was 117. Frenkel grading was done for assessing the neurological status of the patients. The number of patients in each of the Frenkel grades is A – 0, B – 14, C – 40, D – 44, E – 184. The analysis is shown below –



ESR was done in 200 patients. The values are as shown in table –

Range	Number of patients
0-30	42
31-60	65
61-90	65
91-120	24
>120	4
Total	200

Radiological evaluation was done with the help of X-rays and MRIs. The radiological type of lesion was most commonly a paradiscal lesion (183). The results are shown in table below –

<b>Type of lesion</b>	<b>Number of patients</b>
Body/Central	45
Paradisical	183
Anterior	11
Posterior	4
Normal X-ray	14
Total	257

Biopsy for diagnosis was done in a total of 163 patients. The type of biopsy done was CT-guided (67), open biopsy (91), both (5). AFB smear was done and found positive in 50 patients and negative in 88 patients. Culture studies were done in 62 patients with 45 positive and 17 negative results. Sensitivity test for Anti-tubercular drugs was done in 32 patients. The results were as presented in table below –

<b>Results of Drug sensitivity test</b>	<b>Number of patients</b>
Sensitive to all drugs	26
MDR	4
Resistant to PZA	1
Resistant to INH	1
Total	32

The medical management for the patients was quite variable across the country when it came to the use of 2<sup>nd</sup> line drugs. The most commonly followed regime to start with was HRZE. However the duration of initiation phase and continuation phase again varied.

The number of patients requiring surgical procedure for management of TB was 110. The common indications for surgery is given below

<b>Indication for surgery</b>	<b>Number of patients</b>
Significant neurology	35
Worsening neurology on AKT	36
Significant deformity	18
Cosmetic	1
Pain inspite of AKT	45
Instability	27
Resistance to AKT	1
Others	10

The approaches used were Anterior (39), Posterior (59 including 21 TPD), Anterior and Posterior (12). 22 patients were treated with bone graft alone after decompression and no instrumentation was used. In 18 patients a cage was used. Instrumentation was done in all patients in whom a cage was used. The various instrumentations used were as follows –

<b>Type of Instrumentation</b>	<b>Number of patients</b>
Anterior plates or rods and screws	20
Pedicle screws	51
Hartshill rectangle	12
Posterior plates (Steffe)	2
USS	1
Moss Miami system	3
C1-C2 wiring	1

Various number of levels were fixed for stabilization following decompression. These are shown below –

Number of levels fixed	Number of patients
1	21
2	21
3	13
4	20
5	14
6	11
7	1
8	5
10	4

Follow up was available for 53 patients at 3 months, 37 patients at 6 months and 29 patients at 1 year. All patients showed improvement in pain, neurology and ESR values.

**Inputs needed from ASSI members:** We would like to highlight few points which would help us to do our job more efficiently.

The ASSI members form the main source of our data acquisition. We have designed an excel sheet with the various parameters we require for comprehensive data collection and analysis. We would request the ASSI members to send us their cases in the format of the Excel sheet which we will be sending to them via email periodically. This makes our job much easier due to uniformity of the sent data.

Also, we would request the member to try to maintain follow-up of their cases. We need long term results of treatment to draw conclusions.

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