A CROSS SECTIONAL STUDY OF IRON METABOLISM IN PATIENTS WITH PULMONARY TUBERCULOSIS IN A TERTIARY CARE CENTER, DHARWARD.

BY

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ABSTRACT

BACKGROUND AND OBJECTIVES:

Tuberculosis (TB) is a major cause of illness and death worldwide, and its incidence and mortality rates have increased in recent years. Iron is essential for both humans and TB-causing bacteria, but its availability is regulated by the host's immune system. The study aims to examine the iron levels in pulmonary TB patients in India and their association with disease severity. The primary objective is to assess serum iron parameters, while the secondary objective is to estimate the association between iron levels and disease severity.

METHODS:

Study was a hospital-based cross-sectional study that aimed to assess the severity of pulmonary tuberculosis (PTB) among patients attending SDM hospital in Dharwad. Patients diagnosed with PTB, both male and female, were included in the study, while those with multidrug-resistant TB, extrapulmonary TB, and significant comorbidities were excluded. The sample size was calculated to be 96 using a convenient sampling technique. A pre-designed and pre-tested questionnaire was used to collect personal and sociodemographic data, while disease severity was assessed using the Bandim TB Score system. Data was collected from 100 adult patients diagnosed with PTB over a period of one year. Baseline hematological and biochemical parameters were also assessed. Descriptive statistics and Chi-square tests were used for data analysis, and ethical clearance was obtained from the Institutional Ethics Committee of SDMCMSH, Dharwad.

RESULTS:

Among the 100 participants in the study, 71 were males and 29 females, and the mean age of the participants was 49.23±16.70. Physical examination showed that

most participants had pallor. In terms of biochemical profile, the study population is having iron deficiency anemia and the high levels of serum ferritin may indicate iron overload or chronic inflammation including Tuberculosis. The low transferrin saturation level may be due to iron deficiency or other factors such as chronic disease or inflammation. The high serum CRP level further supports the presence of TB in the body. The sample is heavily skewed towards males, representing 71% of the total, and the mean age is slightly higher than the median. The study population had 30% AFB and 70% CBNAAT for TB.

CONCLUSION:

This study in tertiary care hospital in India assessed the hematological and biochemical profile of 100 patients with pulmonary tuberculosis India using the Bandim TB score system and found significant abnormalities in their hematological and biochemical parameters.

KEY WORDS: Tuberculosis, Bandim Score, Hematological, Biochemical profile, Anemia