

**OBJECTIVES:**

The study aimed to determine the clinical and laboratory predictors of a low CD4+ cell count (<200 cells/microl) in HIV-infected patients with pulmonary tuberculosis (PTB).

**DESIGN AND SETTING:**

A prospective cohort study on HIV-positive patients with smear-positive PTB attending an outpatient clinic in Zimbabwe.

**PARTICIPANTS:**

Consecutively consenting HIV-positive adults, aged 18 years and over, who had positive sputum smears for acid-fast bacilli and were naïve to both antituberculosis drugs and ART.

**INTERVENTIONS:**

Baseline CD4+ cell count, full blood count, functional status using the Karnofsky Performance Status (KPS) score and body mass index (BMI, kg/m<sup>2</sup>) were determined for all participants. Univariate and multiple logistic regression analyses of the data were done.

**RESULTS:**

Of the 97 participants recruited, 59 (61%) were females. The overall mean age was 34 years (standard deviation (SD) 8). The median CD4+ cell count was 104.5 cells/microl (intraquartile range (IQR) 41-213 cells/microl). Patients with pleuritic chest pain were less likely to have a low CD4+ cell count than patients who did not (odds ratio (OR) 0.2; confidence interval (CI) 0.03-0.8). The following were statistically significant predictors of a CD4+ cell count of <200 cells/microl: BMI<18 kg/m<sup>2</sup> (OR 3.8; CI 1.2-12), KPS<54.4 (OR 3; CI 1.1-12) and haemoglobin concentration<8 g/dl (OR 13; CI 1.8 - 533).

**CONCLUSIONS:**

HIV-infected sputum-positive PTB patients presenting with a BMI<18, KPS<54.4% and haemoglobin concentration<8 g/dl should have early initiation of ART since they are more likely to have a low CD4+ cell count, whereas those presenting with pleuritic pain are less likely to have a low CD4+ cell count.