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Nutritional status and immune status of patients with active pulmonary tuberculosis.
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Objectives of the study are; To quantify the immune response with regard to lymphocyte subpopulations [T cells (CD4 and CD8 subsets), B cells, B 1 cells, NK cells and NKT cells] in patients with active pulmonary tuberculosis; To describe nutritional status in active pulmonary tuberculosis using anthropometry, haemoglobin and red cell indices; To compare immune response (with regard to lymphocyte subpopulations)and nutritional status between patients with active pulmonary tuberculosis and healthy controls, To describe the effect of nutritional status (malnutrition and anaemia) on the immune response (with regard to lymphocyte subpopulations) in patients with active pulmonary tuberculosis. A cross-sectional, comparative study involving 49 smear-positive TB patients and 49 controls was carried out. Nutritional status was assessed using anthropometric measurements, haemoglobin concentration and red-cell indices. Nutritional status assessed by weight mid-arm circumference and body mass index was significantly lower in patients with active pulmonary tuberculosis. Presence of anaemia (normocytic normochromic) was higher in patients with tuberculosis .Mean total white cell count in blood was higher in TB with relative lymphopenia and neutrophil leucocytosis. Mean total lymphocytes and the means of most lymphocyte subsets were significantly lower in TB. Significant differences were not observed in the means of Natural-killer cells. Incidence of malnutrition and anaemia was significantly higher in patients with tuberculosis. Depletion of total lymphocytes and most lymphocyte subsets in peripheral blood were observed in TB. It suggests that these take part in the immune response against tuberculosis. These observation would be useful in designing and evaluating novel therapeutic measures and vaccines against tuberculosis.