

## Medical Nutritional Therapy in Human Immunodeficiency Virus Infection with Tuberculosis and Severe Malnutrition: A Case Report

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**Abstract :** The human immunodeficiency virus (HIV) patients have potential nutritional and metabolic problems. HIV is a virus that attacks cells T helper and impairs the function of immune cells. Infected individuals gradually become immunodeficient, results in increased susceptibility to a wide range of infections such as tuberculosis (TB). Malnutrition has destructive effects on the immune system and host defense mechanisms. Effective and proper nutritional therapies are important to improve medical outcomes and quality of life, which is associated with functional improvement. A case of 38-years old man admitted to hospital with loss of consciousness and was diagnosed HIV infection and relapse lung TB with severe malnutrition, fever, oral candidiasis, anemia (6.3 g/dL), severe hypoalbuminemia (1.9 g/dL), severe hypokalemia (2.2 mmol/L), immune depletion (1085 / $\mu$ L) and elevated liver enzyme (ALT 1198/AST 375 U/L). Nutritional intervention by giving 2300 kcal of energy, protein 2 g/IBW/day, carbohydrate 350 g, fat 104 g through enteral and parenteral nutrition. Supplementations administered are zinc, vitamin A, vitamin B1, vitamin B6, vitamin B12, vitamin C, vitamin D, and snakehead fish extract high content of protein albumin (Pujimin®). After 46 days, there are clinical and metabolic improvement in Hb (6.3 to 11.2 g/dL), potassium (2.2 to 3.4 mmol/L), albumin (1.9 to 2.3 g/dL), ALT 1198 to 47/AST 375 to 68 U/L) and improved awareness. In conclusion, nutritional therapy in HIV infection with adequate macronutrients and micronutrients fulfillment and immunonutrition is very important to avoid cachexia and to improve nutritional status and immune disfunction.

**Keywords :** HIV, hypoalbuminemia, malnutrition, tuberculosis

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