

Original Paper

Morphologic changes of *Mycobacterium tuberculosis* after exposure with choloformic garlic extract

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Abstract

Background and Objective: Tuberculosis is one of the major problem facing of globe health. Drug resistance of mycobacterium tuberculosis to antimicrobial agent has strongly emerged the need for achiving the new drugs. Garlic as medical plants has long been taken under investigation. This study for antibacterial effect was done to determine the morphological alteration of *Mycobacterium tuberculosis* due to garlic choloformic extract. Garlic extract contains allicine (thio-2-propen-sulfonic acid-s-allil ester) is one of its effective antimicrobial substance.

Materials and Methods: In a in-vitro study, the standard strain of *Mycobacterium tuberculosis* H37RV and clinical isolated strain was cultured in the middle broke 7H9 broth with different concentration of garlic extract in different 12, 24, 48, 72 hours. Morphological althertits of mycobacterium inspected with macroscopic and microscopic studies.

Results: The garlic exteract caused conversion of rough colonies to smooth and mucoid colonies and in microscopic studies morphologic change of mycobacterium from bacilli form to coccobacilli and cocci was observed. Also 0.67 mg/ml of garlic exteract on 48h period inhibited both of sensitive (standard strain of H37RV) and resistance (clinical strains) *Mycobacterium tuberculosis*.

Conclusion: This study showed that garlic extract in addition to inhibiting growth, change the morphology of *Mycobacterium tuberculosis* from baccilli to cocoibaccill form and also alter the colony apearance from rough to smooth shap.

Keywords: *Mycobacterium tuberculosis*, Garlic exteract, Drug resistance, Morphologic change

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