TB DIAGNOSTIC METHODS AND INVOLVED RESPONSES
-A REVIEW ARTICLE

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Abstract:
Introduction: Tuberculosis is the most common cause of death from single-agent infectious diseases in the world, and it is considered to tenth cause of death all over the world; according to estimates, this disease will keep occupying the same position in regard with mortality rate and it might even rise up to the seventh place by 2020.
Method: In this review article, the databases Medline, Cochrane, Science Direct, and Google Scholar were thoroughly searched to identify the studies TB diagnostic methods and involved responses. In this review, the papers published until early January 2017 that were conducted to study the TB diagnostic methods and involved responses were selected. In searching for the articles, those English papers were selected that had TB diagnostic methods and involved responses.
Findings: Most common diagnostic methods for tuberculosis include clinical suspicion, response to treatment, chest torsion, direct measles tuberculin test, mycobacterium culture, and Nucleic Acid Amplification methods. The ideal test for active pulmonary tuberculosis should be easy to apply, with highly sensitive and accurate findings; it should be cheap and have the same results under different conditions.
Discussion and conclusion: Thus, the presence of complex defense systems in the body is the main cause of resistance against this fatal disease. Medical knowledge can identify the immune response network to this pathogen, which, in turn, helps the development of new-generation vaccines and more effective treatment for fighting as well as possible against this deadly disease.

Key words: TB, diagnostic, involved response

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INTRODUCTION:
Tuberculosis is the most common cause of death from single-agent infectious diseases in the world, and it is considered to tenth cause of death all over the world; according to estimates, this disease will keep occupying the same position in regard with mortality rate and it might even rise up to the seventh place by 2020 (1). However, given the necessity and priority of TB control programs, WHO has identified targets for TB control, the most important of which is reducing the mortality rate caused by BT down to one million deaths in the world by 2050 (2). On the one hand, more than 90% of cases of tuberculosis and tuberculosis deaths occur in developing, countries which include 75% of the most active labor age group (3). According to estimates by WHO experts, if current control measures are not strengthened, about 1,000 million people will develop a new flu infection, 150 million will die of tuberculosis, and 36 million people will be infected with this disease (4). To achieve the goals of tuberculosis control, it is necessary to include activities that increase the timely discovery and effective treatment of patients in each country within the country's tuberculosis control strategies (5). Two important factors which affect the expansion of mycobacterium tuberculosis include the population density and subjects with inherent low resistance (6). Contact with a diseased patient is a major factor in transmitting a disease so that if a patient with active tuberculosis is placed in a closed environment, within 12 hours, it can infect whomever in close touch with the patient (7). If the same patient is afflicted with a kind of tuberculosis resistant against first-line, immediate medicine, he can infect people within 4 hours. Epidemiologists believe that 1. 20% of cases of tuberculosis infection lead to cavernous pulmonary tuberculosis, and each patient with cavity produces might infect 20 other individuals (8).

METHODOLOGY:
In this review article, the databases Medline, Cochrane, Science Direct, and Google Scholar were thoroughly searched to identify the studies TB diagnostic methods and involved responses. In this review, the papers published until early January 2017 that were conducted to study the TB diagnostic methods and involved responses were selected. In searching for the articles, those English papers were selected that had iTB diagnostic methods and involved responses.

FINDINGS:
Most common diagnostic methods for tuberculosis include clinical suspicion, response to treatment, chest torsion, direct measles tuberculin test, mycobacterium culture, and Nucleic Acid Amplification methods (9). The ideal test for active pulmonary tuberculosis should be easy to apply, with highly sensitive and accurate findings; it should be cheap and have the same results under different conditions (10). It can be done automatically or can be easily applied to the sample and allows for the sensitivity of the drug. It is also possible to detect mycobacterium tuberculosis from other Mycobacterium is a direct method of diagnosis of active tuberculosis (11). Although it provides high specificity and precision, it requires a lot of time and laboratory equipment. This test will not only allow for the examination of other mycobacteria, but also the ability to check the sensitivity of the drug, as well as providing a way to evaluate the genotype for epidemiological studies as needed (12). NAA methods can be done in one day, but, unfortunately, they are not completely standardized and their diagnostic accuracy varies considerably, and they need expensive equipment and personnel (13). Extensive research has shown that in 90-95% of healthy people, basil tuberculosis, is blocked through the acquired immune system after entering the body; however, the role of humoral innate immune system in the control of tuberculosis is being extensively investigated (14).

DISCUSSION AND CONCLUSION:
Despite extensive efforts, tuberculosis remains a major problem worldwide. The development and spread of drug-resistant strains and simultaneous infections of tuberculosis with HIV are also major challenges for the future of human health (15). Though tuberculosis is a considerably fatal disease, some humans are resistant to it; bacillus solidifies, upon entering the body of the human host, stimulates responses which generate a high degree of resistance against this disease (16). Studies have shown that in about 90-95% of healthy people, T cells and macrophages can control and avoid the spread of their bacilli tuberculosis in the body. Following the entry of the bacterium into the body, there are intense responses that cause tuberculosis to escape and hide in infected phagosome macrophages (17). Pathological and protective responses of the host against M. tuberculosis are complex and multifaceted and involve different parts of the immune system. Each stage of the host response to M (18). Tuberculosis involves treating macrophages, epithelial cells, dendritic cells in the lung, stimulating cellular response and killing bacteria by activated macrophages, bringing granuloma under genetic control . Thus, the presence of complex defense systems in the body is the main cause of resistance against this fatal disease. Medical knowledge can identify the immune response network to this pathogen, which, in turn, helps the development of new-generation vaccines and more effective treatment for fighting as well as possible against this deadly disease.
REFERENCES: