Introduction:

Tuberculosis (TB) is the single most frequent cause of death by an infectious agent worldwide ***(Palomino, 2005).***

Among the extrapulmonary presentations, pleural TB is second in frequency after tuberculous lymphadenitis (29%).(***Mehta , et al. , 1991)*** Conventional methods for the diagnosis of pleural TB have proven inefficient.

Direct examination of pleural fluid and Ziehl-Neelsen staining requires bacillar concentrations of 10,000/mL and, therefore, has a low sensitivity (0 to 1%), as main cause of pleural effusion in tuberculosis is delayed hypersensitivity ***(Tissot et al., 2005)***.

The sensitivity of pleural biopsy specimens is reportedly higher whether by culture (39to79%)(***Barbas et al. , 1991)***or histologic evaluation (71 to 80%). However, this procedure requires greater expertise, is more invasive, and is subject to sampling error.

Methods such as tuberculin test and measurement of adenosine deaminase (ADA) activity in pleural fluid, which is due principally to ADA produced by monocytes ***(Valdes , et al. , 1996)***and is indicative of a local, active, inflammatory response,quantiferon -TB Gold test ***(CDC, 2006).***

to detect a specific sequence of the M tuberculosis genome have shown higher sensitivity than culturing or the direct examination of pleural fluid ***(Connell et al., 2006).***

Aim of the work:

The aim of this prospective study is to evaluate the diagnostic utility of unstimulated pleural IFN-γ level to quantiferon -TB Gold test in pleural fluid for diagnosing tuberculous pleuritis.

Patients and methods:

Forty patients with diagnosis of pleural effusion will divide into two groups

The criteria of the two groups of patients will evaluated as follow:

1. **Group 1**

Probable pleural TB based on signs and symptoms (cough, fever, chest pain, and pleural exudation) with response to treatment or a culture positive for M tuberculosis from sputum associated with a pleural effusion.

2. **Group 2**

Pleural effusion having an etiology different from TB established by cytologic or histologic testing.

All the participants were subjected to the ***following interventions***:

- Full medical history.
- Through clinical examination.
- Plain X-ray chest.
- Tuberculin test

  A single specimen of pleural fluid (50 to 100 mL) was aspirated& submitted for cytologic

- examination, chemistry examination, Ziehl-Neelsen staining, ADA activity determination, unstimulated IFN-γ,quntiferon TB-Gold test.

Finally the results will be tabulated and analysed to achieve the aim of the work.

References:

* Barbas C, Cukier A, de Cavalho C, et al. The relationship between pleural fluid findings and development of pleural thickening in patients with pleural tuberculosis. Chest 1991; 100:1264–1267

* **Center for Disease Control and Prevention (2006)**:TB Elimination, Diagnosis of Tuberculosis Disease. www.cdc.gov/tb

* **Connell T, et al. (2006)** :Early Detection of Perinatal TB Using a Whole Blood Interferon-Release Assay. *Clinical Infect Dis*, **42**:e82-e85

* Mehta JB, Dutt A, Harvill L, et al. Epidemiology of extrapulmonary tuberculosis. Chest 1991; 99:1134–1138

* **Palomino J. C (2005):** Nonconventional and new methods in the diagnosis of tuberculosis: feasibility and applicability in the field. *Eur Respir J*; **26:** 339–350

***Tissot F, Zanetti G, Francioli P, Zellweger JP, Zysset F(2005):**Influence of bacille Calmette-Guerin vaccination on size of tuberculin skin test reaction: to what size? *Clin Infect Dis* ;**40**:211–217.

* Valdes L, San Jose E, Alvarez D, et al. Adenosine deaminase (ADA) isoenzyme analysis in pleural effusions: diagnostic

role, and relevance to the origin of increased ADA in tuberculous pleurisy. Eur Respir J 1996; 9:747–751