SUMMARY AND CONCLUSION

This work aimed to evaluate the usefulness of pleural fluid IFN-γ measurements in the differentiation between tuberculous, malignant and transudative pleural effusions.

In the present study, thirty patient diagnosed having pleural effusions were divided into three groups:-

Group (I): Included 10 patients of tuberculous pleural effusion, They were eight males,two females. Their age ranged from 10-34 years old.

Group (II): Included 10 patients of malignant pleural effusion, They were six males,four females. Their age ranged from 50-70 years old.

Group (III): Included 10 patients of transudative pleural effusion, There were four male and six females. Their age ranged from 40-80 years old.

The patients were subjected to a full history taking, a complete clinical examination, plain chest X-ray (postero- anterior and lateral views),tuberculin testing (Mantoux method), sputum examination for acid fast bacilli (Ziehl-Neelsen stain), complete blood picture and erythrocyte sedimentation rate.

Thoracocentesis was done and the pleural aspirate was examined for:

a) Physical examination (Gross appearance and nature of the fluid and Specific gravity.

B) Chemical examination (Total proteins, lactate dehydrogenase (LDH), glucose concentration, adenosine deaminase if needed in some cases and cytological examination.

C) Level of interferon gamma was estimated in pleural fluid by polymerase chain reaction (PCR).

The results of this study revealed the following:

In the studied groups, there is significanct lower mean age of tuberculous group than other groups.

In blood, the mean percentage of lymphocytes were higher in group I(tuberculous group) than other group II,III(transudative,malignant groups)

The mean level of tuberculin test was high in tuberculous group versus malignant group and transudative group.

Tuberculous group showed high pleural fluid protein and lactate dehydrogenase than other groups

The mean value of pleural fluid gamma interferon in group I,II,III is 6055.5±1388.8 copy/ml , 380±35.7 copy/ml and 183±28.58 copy/ml respectively, this mean that the level of gamma interferon in pleural fluid was markedly high in tuberculous group in comparison with other groups (malignant and transudative group) and with statistically highly significance difference between all studied groups (P value <0.001).

There was significant positive correlation between pleural fluid gamma interferon (IFN-γ) and its lymphocyte% content (P<0.05).and positive correlation between gamma interferon and adenosine deaminase in tuberculous group (P<0.05).

Regarding the accuracy of gamma interferon quantititation in the dignosis of tuberculous pleural effusion.It was found that the sensetivity was 97.3%, the specificity was 93%, the positive predective value was 96.4 %, the negative predictive value was 79% and the efficacy was 95% when 1.465×10^{-3} Copy/ml was taken as the cut off value of gamma tnterferon in pleural fluid.

Conclusion:-

It could be concluded from the present study that there were significantly elevated of IFN-γ in pleural fluid with tuberculous effusion compared with other patients with transudative and malignant groups.

The level of IFN-γ in pleural fluid could distinguish possible causes of pleural effusion (exudative from transudative effusions and tuberculous from malignant effusions).

Recommendations:-

After analysis of the results attained in this study, it could be recommend the following:-

-Estimation of gamma interferon level in pleural fluid can be done specially when other investigation failed to show the diagnosis.

-INF-γ level in patients with pleural effusion could reduce the number of patients referred to more invasive diagnostic procedures.

-INF-γ concentration is highly specific and sensitive useful screening test for tuberculous pleurisy.