SUMMARY

- Connective tissue diseases are a group of chronic inflammatory disorders, they involve many different organs and therefore exhibit a wide spectrum of clinical manifestations. Their aetiology is unknown but it is generally thought to be multi factorial, involving immunological, genetic and environmental, possibly viral, factors.

- The heart is one of the target organs affected in connective tissue diseases. Cardiac lesions have been documented to occur in subclinical forms in many cases of theses diseases. Echocardiography being a recent sensitive tool, would increase the awareness of many of these sub clinical lesions.

- The aim of this work is to record the incidence of cardiac lesions in connective tissue diseases in addition, the correlation between cardiac lesion and various clinco-laboratory parameters of these disorders were considered.

- Sixty six patients (30 RA, 20 SLE, 6 scleroderma, and 4 dermatomyositis) who were attending Benha University hospital were included in the present work. full clinical examination laboratory investigation, radiological investigation and echocardiography was performed to all patients. The results were tabulated, graphed and statistically analyzed.

The result in Group I (Adult onset RA).

- Sixteen patients were included, females were 14 (87.5%) while males were 2 (12.5 %) with female to male ratio 7: 1.
- The median age of examined cases was 49.5 years with a range from 20 to 60 years.
- The median duration of disease in examined cases was 9.5 years with a range between 3 and 20 years.
- The median of disease activity was 2.8 with a range from 0.2 to 3.8, most of patients 45% fall into a grade 3 classification and little 5% fall into grade 4 classification.
- The incidence of cardiac lesions was 62.5% of cases.
- The commonest valve to be affected was mitral valve 50% there was significant correlation between echo cardio graphic finding, pain scale ($p = 0.05$) and functional capacity ($p=0.003$).
- There was non significant relationship between the presence of cardiac lesions and disease ($p= 0.3$) duration and disease activity index ($p= 0.9$).
- There was non significant relation between echocardiographic finding and other clinical or laboratory parameters.

As regards group II (Juvenile rheumatoid arthritis cases)

- Fourteen children were include who were 4 females and 10 males with male to female ratio 1: 2.5.
- Their ages were between 3 and 18 years with a median 10 years.

- Disease durations were between 0.2 -8 years with a median of 2.5 years.
- The cardiac lesions were found in 50% of case.
- The commonest lesion was pericardial lesion 28%.
- There were significant correlations between echocardiograplic finding, age (p= 0.04), disease duration (p= 0.02) and pain score (p = 0.03).
- There were non significant correlation between echocardiographic finding and disease activity index (p = 0.2), articular index (p= 0.3), ESR (p = 0.7), or Hb (p = 0.8).

As regards group III (SLE patients).

- Twenty cases were included who were 19 females (95%) and one male (5%) with male to female ratio 1-18.
- Their ages were between 18 and 40 years with a median of 27.5 years.
- Disease activity index (SLE DAI) was between 5-45 with a median of 20.
- Most of patient were of moderate grade 50% and little of them were of severe grade 20%.
- The cardiac lesions were found in 80% of cases.
- The commonest lesion was miltral valve thickness (40%), mitral regurge 10%, AR 20%, LVH 10% and pericardial lesion 20 %.

- There was significant correlation between echocardiographic findings, age (p = 0.006), disease duration (p= 0.007) and pain score.

-There was insignificant correlation between echocardiographic findings and disease activity index (p = 0.6), ESR P= 0.4) or Hb (p= 0.4).

As regards group IV (scleroderma group).

- Six cases was include they were females.
- Their ages were between 0.5 and 10 years with a median of 4 years.
- Five cases were with proximal sclerosis and one case was with only distal sclerosis.
- The cardiac lesions were found m 83% of cases.

-The commonest lesions were pulmonary hyper tension 67% and right ventricular filling defect 67%.

-There was significant correlation between echocardiographic findings, age (p= 0.01) and disease duration (p=0.05).

-There was non significant correlation between echocardiographic findings, ESR (p = 0.2) or Hb (p =0.7).

As regards Group V idiopathic inflammatory muscle disease.

- Four cases of dermatomyositis were include who were females.
- Their ages were between 18 and 40 years with a median of 29.5 years.

There was no abnormal echocardiographic findings found in our cases.

CONCLUSION AND RECOMMENDATION

- Cardiac involvement in connective tissue diseases is frequently present.

- Echocardiography enable the early detection of cardiovascular dysfunction in connective tissue diseases even in asymptomatic cases.

- The incidence of cardiovascular lesions increases with age and duration of diseases.

- There are no fixed parameters which predict the cardiac affections.

- Cardiovascular complications are major factors in mortality of connective tissue diseases so we recommend a routine follow up by echocardiography for all cases of connective tissue diseases.