SUMMARY AND CONCLUSION

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The aim of this work was to estimate the level of TGF-β1 in both serum and synovial fluids of patients with primary OA of the knee and to assess the potential usefulness of its measurement as a marker of disease severity versus radiographic grading of knee OA.

Thirty patients with primary knee OA were included in this study. All of them had effusion either in one or both knees. They fulfilled the American College of Rheumatology Criteria for classification and reporting of OA**(Altman et al .,1986)**.

They were twenty four females (80 %) and six males (20%). Their age ranged between 39 and 68 years with a mean of 56.7 ± 7.64 years. The disease duration ranged between 2 to 12 years with a mean of 6.3 ± 2.92 years.

Patients who had associated diseases either acute inflammatory conditions, diabetes, chronic hepatitis, chronic inflammatory joint disease e.g. RA, SLE were excluded from the study. Another Twenty normal subjects were included in the study as a control group. They were age and sex matched.

A thorough clinical examination was performed for each patient as follows :

-Body weight , height ,and B.M.I.

-Joint symptoms and signs.

-Pain score as assessed according to visual analogue scale .

-Plain radiographs were taken for both knees. Grading of radiographic findings was done according to **kellgren and Lawrence (1957)**

-The presence of osteophytes was also detected and they were graded according **to Thomas et al.,(1975).**

-Routine laboratory investigations such as complete blood picture, erythrocyte sedimentation rate, and hemoglobin.

-Estimation of TGF-β1 in patients (serum and synovial fluid) and controls (serum) using ELISA technique.

The findings of this study were as follow :

-Patients with knee OA had significantly higher body weight and B.M.I. than the control group ($p<0.05$).

-There were highly statistically significant differences between both groups as regards ESR and HB ($p<0.001$)

-As regards pain severity grading in OA patients, 6 patients (20%) had grade II, 14 patients (46.7%) had grade III and 10 patients (33.3%) had grade IV.

-As regards x-ray grading in OA patients,5 patients (16.7%) had grade 0-1, 10 patients (33.3%) had grade II, 7 patients (23.3%) had grade III, and 8 patients (26.7%) had grade IV.

-As regards grading of osteophyte score, 5 patients (16.7%) had no osteophyte, 10 patients (33.3%) had grade I, 6 patients (20%) had grade II and 9 patients (30%) had grade III.

-The mean level of serum TFG-β1 in OA patients showed a statistically significant increase ($p<0.05$) as compared to controls.

-The mean level of synovial TGF-β1 in OA patients was 7.5 folds higher than the serum level indicating intra-articular production.

-A highly significant difference was found ($p<0.001$) between the level of serum TGF-β1 and pain severity grading in OA patients .

- A significant difference was found ($p<0.05$) between the level of synovial TGF-β1 and pain severity grading in OA patients.

-A highly significant difference was found ($p<0.001$) between the level of serum TGF-β1 and x-ray grading in OA patients.

-A significant difference was found ($p<0.05$) between the level of synovial TGF-β1 and x-ray grading in OA patients.

-A highly significant difference was found ($p<0.001$) between the level of serum TGF-β1 and grading of osteophyte score in OA patients.

-A significant difference was found ($p<0.05$) between the level of synovial TGF-β1 and grading of osteophyte score in OA patients.

-There were significant correlations between serum TGF-β1 and age, B.M.I., disease duration, pain severity grading, x-.ray grade and grading of osteophyte score.

-There were significant correlations between synovial TGF-β1 and age, disease duration, pain severity grading, x-ray grade and grading of osteophyte score.

-There was a significant correlation ($p<0.05$) between serum and synovial TGFβ1 in OA patients.

In conclusion, our results support the hypothesis that TGF-β1 has a role in the pathogenesis of OA.TGF-β1 levels was significantly elevated in patients with knee OA. Measurement of TGF-β1, either in serum or in synovial fluid, was found to be a useful marker that reflects the severity of OA as measured radiologically.