



**RESULTS**



Table (4) shows :

Laboratory variables of the studied groups.

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

Table (5) shows :

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.

Table (6) shows :

X- ray grading in OA patients.

5 pat., (16.7%) had grade 0-1,  
10 pat., (33.3%) had grade II,  
7 pat., (23.3%) had grade III,  
and 8 pat., (26.7%) had grade IV

Table (7) shows :

Grading of osteophyte score in OA patients.

5 pat., (16.7%) had no osteophyte.  
10 pat., (33.3%) had grade I.  
6 pat., (20%) had grade II.  
9 pat., (30%) had grade III.

Table (8) and Fig. (1) show :

Serum TGF- $\beta$ 1 in cases and controls.

The mean level of serum TGF- $\beta$ 1 in OA patients showed a statistically significant increase ( $p < 0.05$ ) as compared to controls.

Table (9) shows :

Synovial TGF- $\beta$ 1 in OA patients.

The mean level of synovial TGF  $\beta$ 1 in OA patients was 7.5 folds higher than the serum level indicating intra-articular production.

Table (10) and Fig. (2) show :

The level of serum TGF- $\beta$ 1 in patients with OA graded according to pain severity. Using one-way ANOVA test, a highly significant difference was found ( $p < 0.001$ ) between the level of serum TGF- $\beta$ 1 and pain severity grading in OA patients.

Table (11) and Fig. (3) show :

The level of synovial TGF- $\beta$ 1 in patients with OA graded according to pain severity. Using one-way ANOVA test, a significant difference was found ( $p < 0.05$ ) between the level of synovial TGF- $\beta$ 1 and pain severity grading in OA patients.

Table (12) and Fig. (4) show :

Level of serum TGF- $\beta$ 1 in patients with OA graded according to X-ray abnormalities. Using the ANOVA test, a highly significant difference was found ( $p < 0.001$ ) between the level of serum TGF- $\beta$ 1 and X-ray grading in OA patients.

Table (13) and Fig. (5) show :

Level of synovial TGF- $\beta$ 1 in patients with OA graded according to X-ray abnormalities. Using the ANOVA test, a significant difference

was found ( $p < 0.05$ ) between the level of synovial TGF- $\beta$ 1 and x-ray grading in OA patients.

Table (14) and Fig.(6) show :

Level of serum TGF- $\beta$ 1 in pat. with OA graded according to osteophyte score. Using one-way ANOVA test, a highly significant difference was found ( $p < 0.001$ ) between the level of serum TGF- $\beta$ 1 and grading of osteophyte score in OA patients.

Table (15) and Fig.(7) show :

Level of synovial TGF- $\beta$ 1 in patient with OA graded according to osteophyte score. Using one-way ANOVA test, a significant difference was found ( $p < 0.05$ ) between the level of synovial TGF- $\beta$ 1 and grading of osteophyte score in OA patients.

Table (16) and Fig.(8 & 9) show :

Correlations with serum TGF- $\beta$ 1 in OA patients. There were significant correlations between serum TGF- $\beta$ 1 and age, BMI, disease duration, pain severity grading, x-ray grade, grading of osteophyte score and synovial TGF- $\beta$ 1. Insignificant correlations ( $p > 0.05$ ) were found between serum TGF- $\beta$ 1 and body weight, ESR and haemoglobin

Table (17) and Fig. (10) show :

Correlations with synovial TGF- $\beta$ 1 in OA patients.

There were significant correlations between synovial TGF- $\beta$ 1 and age, disease duration, pain severity grading , x-ray grade, grading of osteophyte score and serum TGF-  $\beta$ 1. Insignificant correlations

( $p > 0.05$ ) were found between synovial TGF- $\beta$ 1 and body weight, B.M.I., ESR and haemoglobin.

Fig.(11) shows :

Correlation between serum and synovial TGF- $\beta$ 1 of OA patients.  
There was a significant correlation ( $p < 0.05$ ) between serum and synovial TGF- $\beta$ 1 in OA patients.

Table (1): Age and sex of the studied groups

	Patients	Controls
<b><u>Age (years)</u></b>		
Mean $\pm$ SD	56.7 $\pm$ 7.64	57.35 $\pm$ 9.13
Range	39 - 68	38 - 69
<b><u>Sex</u></b>		
Female (%)	80	75
Male (%)	20	25

Table (2) : Duration of disease and pain severity score in OA group

<b><u>Disease duration (years)</u></b>	
Mean $\pm$ SD	6.3 $\pm$ 2.92
Range	2 - 12
<b><u>Pain severity score (centimeters)</u></b>	
Mean $\pm$ SD	5.85 $\pm$ 1.32
Range	3.8 - 8.3

Table (3) : Body weight, +Height and B.M.I of the studied groups

	Patients Mean $\pm$ SD	Controls Mean $\pm$ SD	Test of significance
Body weight (Kg.)	89.16 $\pm$ 8.84	84.5 $\pm$ 7.28	t = 1.96 p < 0.05 (significant)
Height (centimeters)	165.1 $\pm$ 10.45	161.8 $\pm$ 11.6	t = 1.07 p > 0.05 (N.S.)
B.M.I (kg/ m <sup>2</sup> )	32.94 $\pm$ 4.49	29.26 $\pm$ 3.46	t = 3.1 p < 0.05 (significant)

N.S. not significant.

Table (4) :Laboratory investigations of the studied groups

	Patients Mean $\pm$ SD	Control Mean $\pm$ SD	Test of significance
ESR (mm/h)	15.33 $\pm$ 3.03	7.2 $\pm$ 1.93	t = 10.62 p < 0.001 (highly significant)
HB (g/dl)	11.9 $\pm$ 0.74	13.92 $\pm$ 1.06	t = 7.9 p < 0.001 (highly significant)



Table (5): Grading of pain severity in OA group

Grading of pain severity	No.	(%)
I	-	-
II	6	20
III	14	46.7
IV	10	33.3

Table (6) : X-ray Grading in OA group

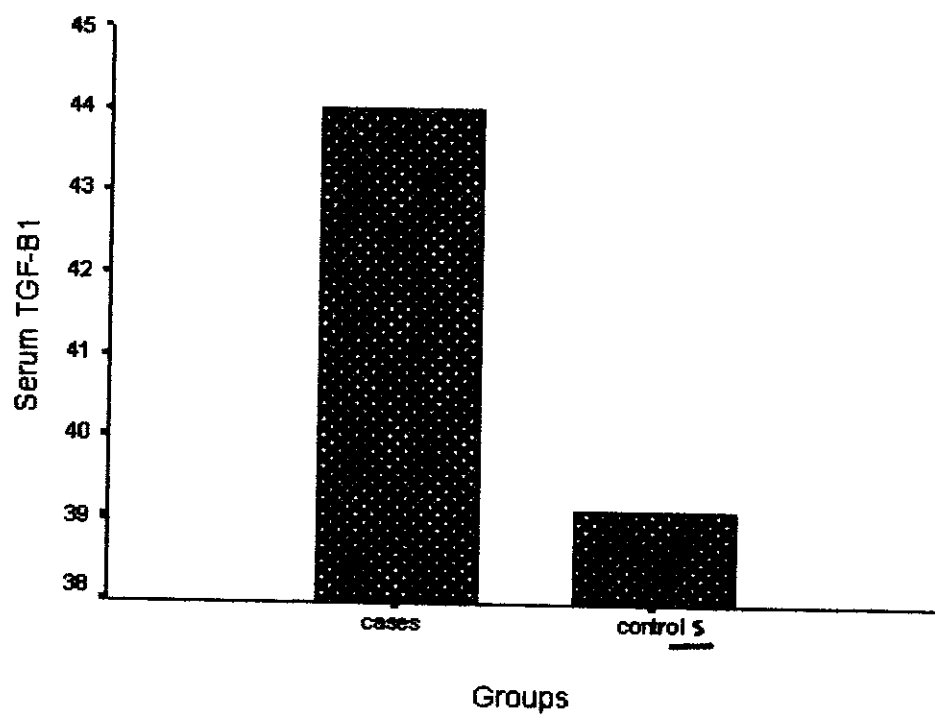
X-ray Grading	No.	(%)
0-1	5	16.7
II	10	33.3
III	7	23.3
IV	8	26.7

Table (7) :Grading of osteophyte score in OA patients.

Grading of osteophyte score	No.	(%)
0 (no osteophyte)	5	16.7
I	10	33.3
II	6	20
III	9	30

Table (8): Serum TGF- $\beta$ 1 (pg/ml.) in cases and controls

	Cases	Control
Mean	44.63	39.12
SD	12.21	15.51
Range	27.51-70.73	31.63-45.17
t	3.21	
p	<0.05(significant)	



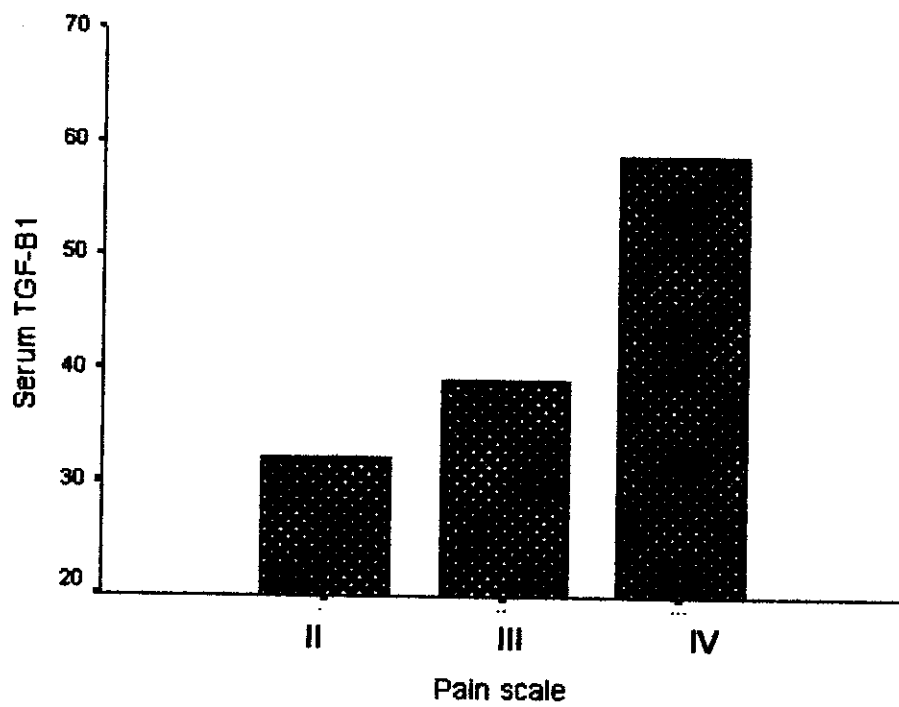
<sup>1</sup> Fig: (1) serum TGF-β1 (pg/ml.)  
in cases and controls

**Table (9): Synovial TGF- $\beta$ 1(pg/ml.) of OA patients**

	<b>Cases</b>
<b>Mean</b>	<b>329.56</b>
<b>SD</b>	<b>168.05</b>
<b>Range</b>	<b>35.36-450.57</b>

Table (10): Serum TGF- $\beta$ 1(pg/ml.) and pain severity grading in OA group.

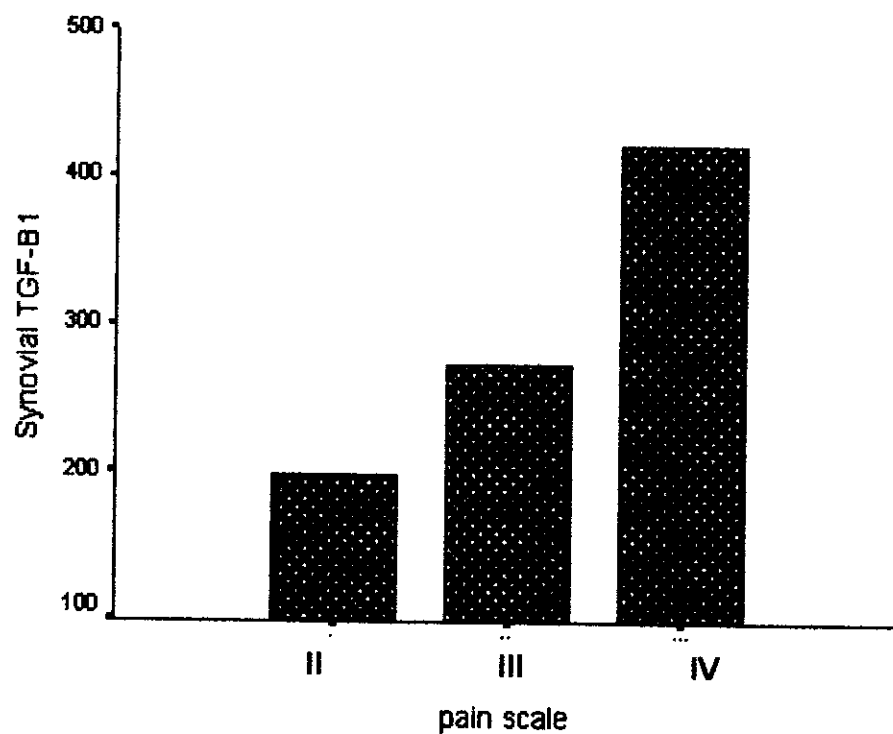
Pain severity grading	Serum TGF- $\beta$ 1(pg/ml.)		
	Mean	SD	Rang
II	32.3	3.09	27.5-36.02
III	42.61	9.3	32.09-61.56
IV	58.83	8.08	47.8-70.73
F	16.3		
P	<0.001 (highly significant)		



**Fig.(2) The level of serum TGF-β1 (pg/ml.) in patients with OA graded according to pain severity**

**Table (11) : Synovial TGF- $\beta$ 1(pg/ml.) and pain severity grading in OA group**

<b>Pain severity grading</b>	<b>Synovial TGF-<math>\beta</math>1(pg/ml.)</b>		
	<b>Mean</b>	<b>SD</b>	<b>Range</b>
<b>II</b>	<b>198.47</b>	<b>32.26</b>	<b>40.6-356.3</b>
<b>III</b>	<b>272.18</b>	<b>13.94</b>	<b>35.36-434.86</b>
<b>IV</b>	<b>421.07</b>	<b>31.28</b>	<b>365.27-450.75</b>
<b>F</b>	<b>5.51</b>		
<b>p</b>	<b>&lt;0.05 ( significant)</b>		

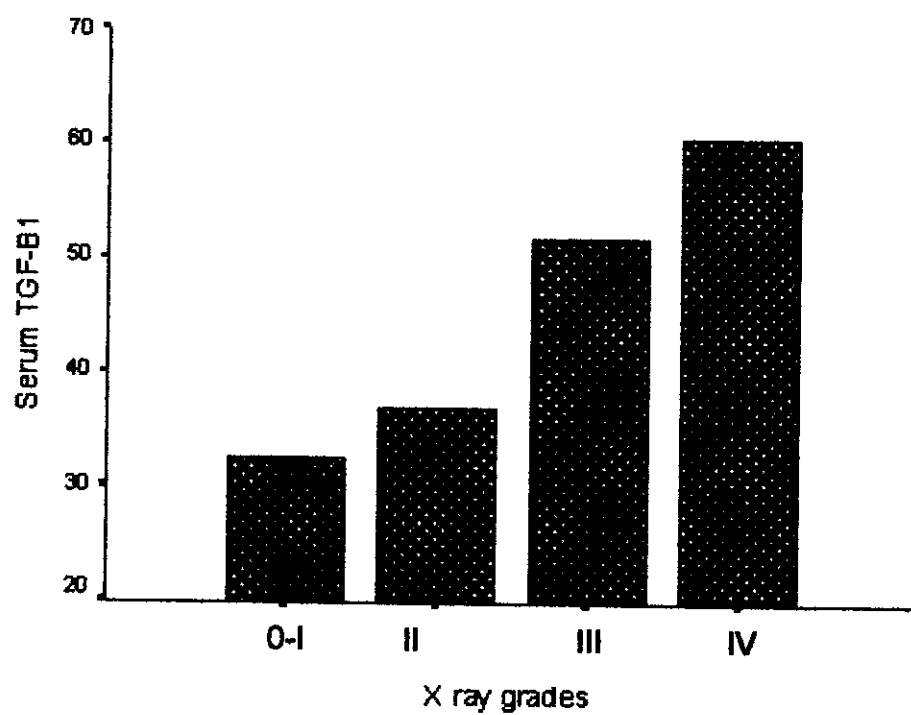


**Fig:(3) The level of synovial TGF-β1 (pg/ml.) in patients with OA according to pain severity**



Table (12) :Serum TGF- $\beta$ 1 (pg/ml.)and X-ray grading in OA group

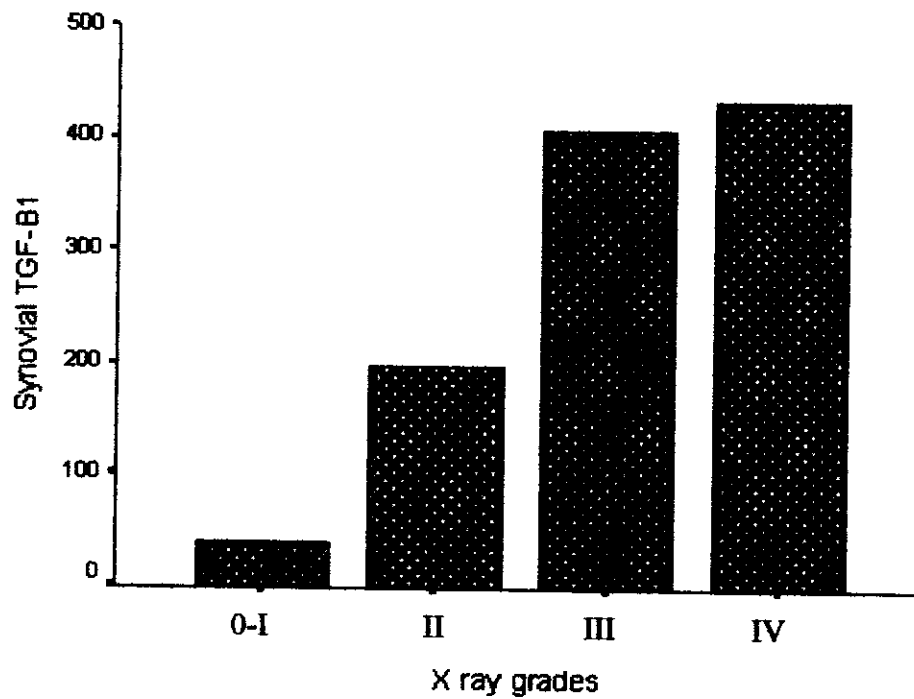
X-ray Grades	Serum TGF- $\beta$ 1(pg/ml.)		
	Mean	SD	Range
0-I	32.74	2.22	31.43-36.67
II	37.03	4.18	27.5-42.56
III	51.73	9.88	36.02-60.91
IV	60.41	9.45	47.8-70.73
F	17.72		
p	<0.001 (highly significant)		



**Fig: (4) The level of serum TGF-β1 (pg/ml.) in patients with OA graded according to X-ray abnormalities**

Table (13): Synovial TGF- $\beta$ 1(pg/ml.) and X-ray grading in OA group

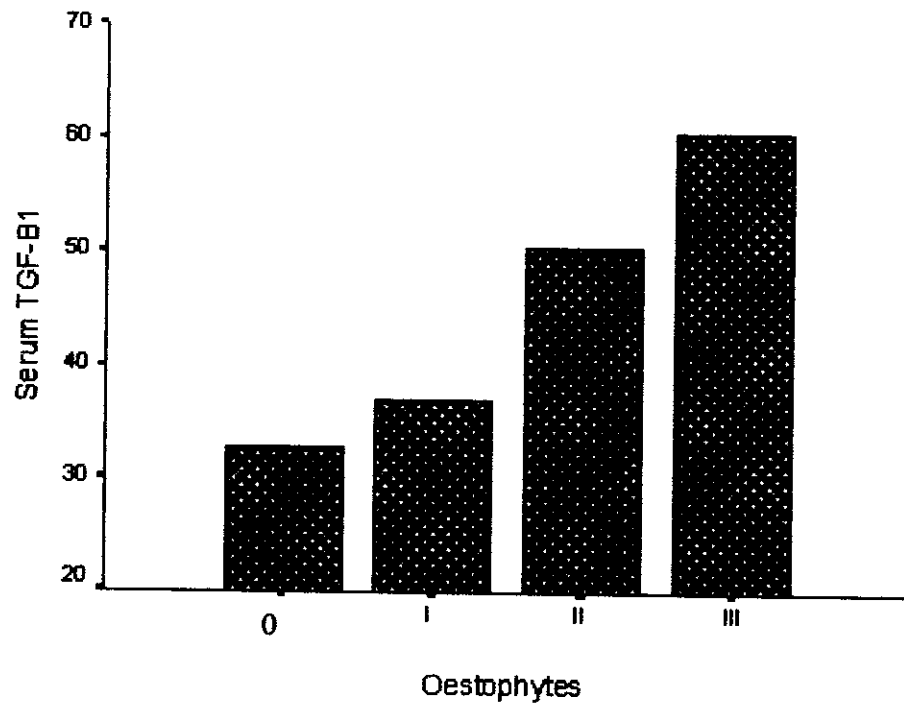
X-ray Grading	Synovial TGF- $\beta$ 1(pg/ml.)		
	Mean	SD	Range
0-I	41.6	0.33	40.6-43.6
II	195.85	26.17	35.36-356.3
III	405.11	35.87	365.27-434.86
IV	432.67	15.24	415.21-450.57
F	15.4		
p	<0.05 (significant)		



**Fig: (5) The level of synovial TGF-β1 (pg/ml.)  
in patients with OA according to X-ray  
abnormalities**

Table (14) :Serum TGF- $\beta$ 1(pg/ml.)-and osteophyte grading in OA group

Osteophyte Grading	Serum TGF- $\beta$ 1(pg/ml.)		
	Mean	SD	Range
0 (no osteophyte)	32.74	2.22	31.43-36.67
I	37.03	4.18	27.5-42.56
II	50.31	10.01	36.02-60.91
III	60.38	8.18	47.81-70.73
F	19.91		
p	<0.001 (highly significant)		



**Fig: (6) The level of serum TGF-β1 (pg/ml.) in patients with OA graded according to osteophytes score**

Table (15) : Synovial TGF- $\beta$ 1(pg/ml.)-and osteophyte grading in OA group

Osteophyte Grading	Synovial TGF- $\beta$ 1(pg/ml.)		
	Mean	SD	Range
0 (no osteophyte)	41.6	0.33	40.6-43.6
I	196.85	26.97	35.36-356.35
II	415.11	35.87	356.27-434.3
III	435.67	15.41	415.21-450.57
F	15.4		
p	<0.05 (significant)		

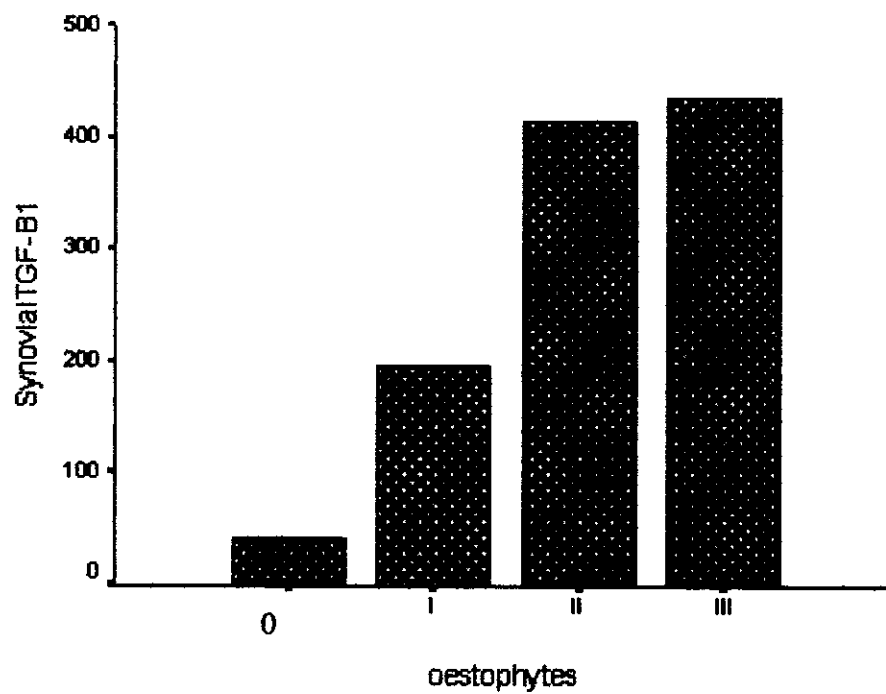


Fig 4: (7) The level of synovial TGF- $\beta$ 1 (pg/ml.) in patients with OA according to osteophytes score



Table (16): Correlations between serum TGF- $\beta$ 1(pg/ml.) and other variables in OA patients

Variables	r	p
Age	0.58	<0.05*
Body weight	0.33	>0.05 (N.S.)
BMI	0.45	<0.05*
Disease duration	0.57	<0.05*
ESR	0.17	>0.05 (N.S.)
HB	0.055	>0.05 (N.S.)
Pain severity	0.81	<0.001**
X-ray grade	0.82	<0.001**
Osteophyte grade	0.84	<0.001**
Synovial TGF- $\beta$ 1	0.72	<0.05*

\* sig.

\*\* highly sig.

N.S. not sig.

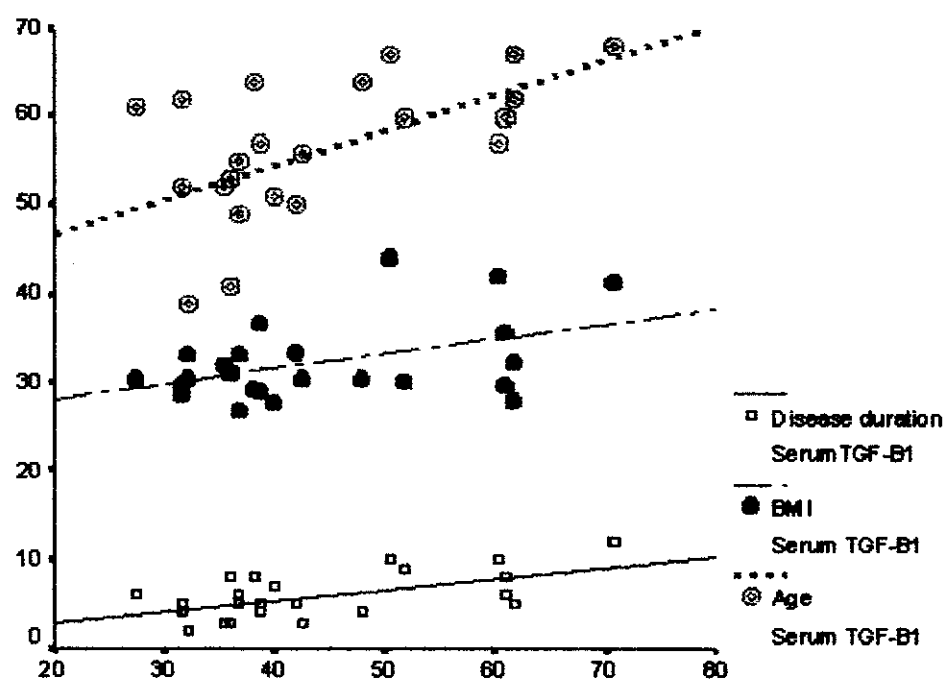


Fig: (8) Correlation between serum TGF- $\beta$ 1 (pg/ml.) age , BMI and disease duration in OA patients

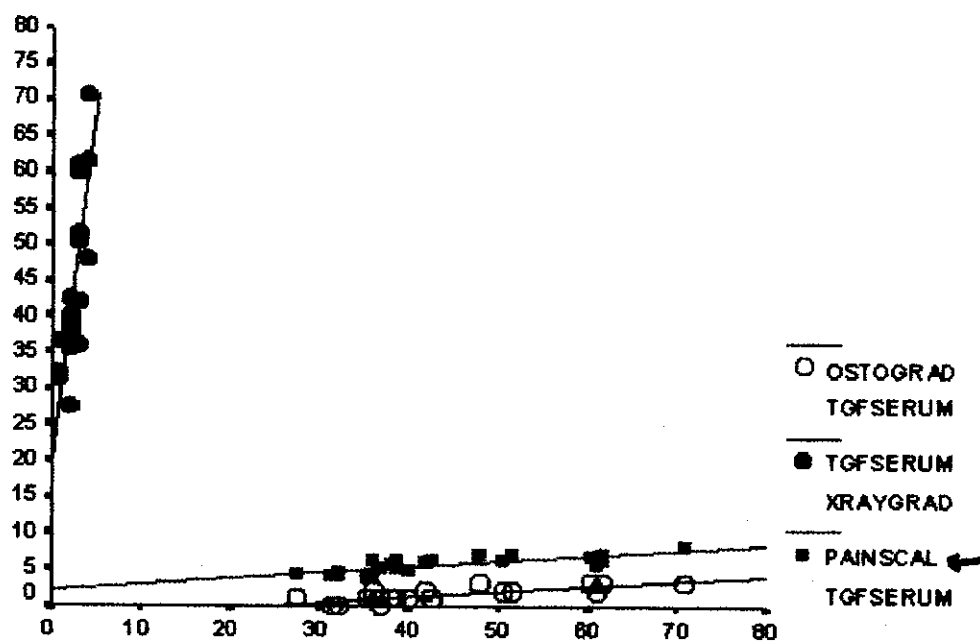


Fig: (9) Correlation between serum TGF- $\beta$ 1 (pg/ml.), pain severity, X-ray grading and grading of osteophytes score

Table (17): Correlations between synovial TGF-  $\beta$ 1(pg/ml.) and other variables in OA patients

Variables	r	p
Age	0.65	<0.05*
Body weight	0.27	>0.05 (N.S.)
BMI	0.25	>0.05 (N.S.)
Disease duration	0.67	<0.05*
ESR	0.011	>0.05 (N.S.)
HB	0.14	>0.05 (N.S.)
Pain severity	0.67	<0.05*
X-ray grade	0.87	<0.001**
Osteophyte grade	0.87	<0.001**
Serum TGF- $\beta$ 1	0.72	<0.05*

\* sig.

\*\* highly sig.

N.S. not sig.

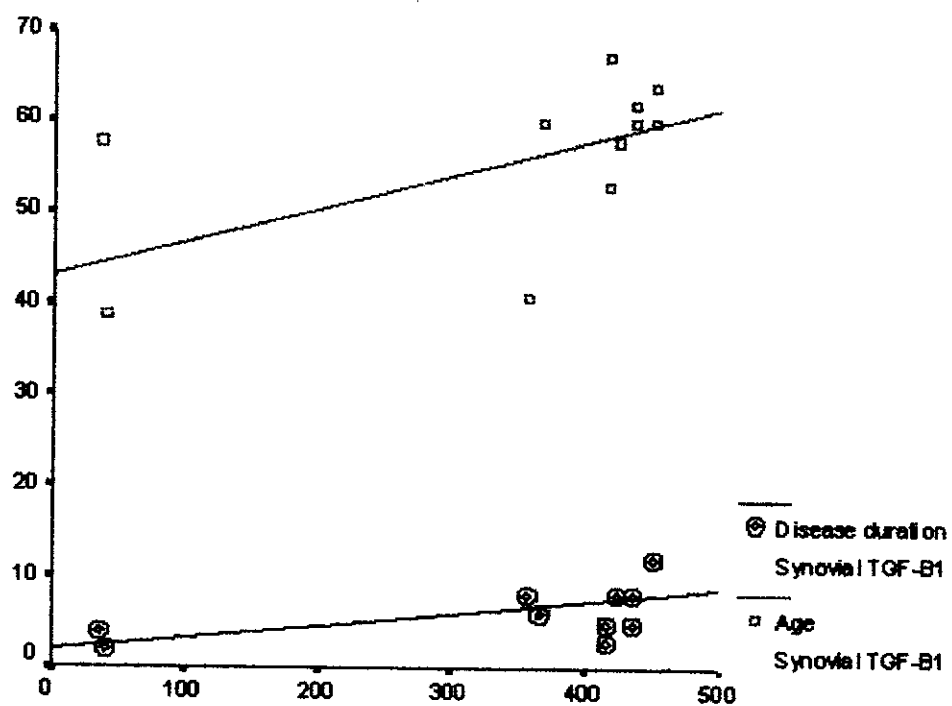


Fig:(10) Correlation between synovial TGF-β1 (pg/ml.), age & disease duration.

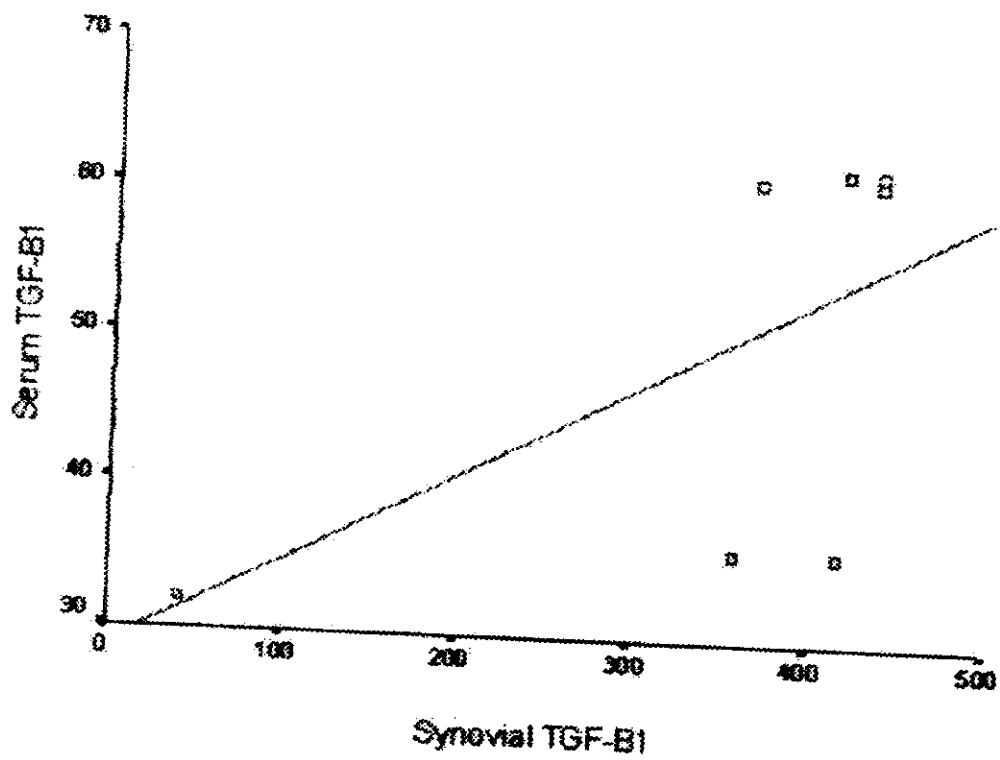


Fig (11) Correlation between serum and synovial TGF- $\beta$ 1 (pg/ml.) in OA patients.