Table 3-1: Demographic, clinical and laboratory parameters of the studied groups.

	Group I n = 48		Group II n = 27		Controls n = 20	
Age (years):						
Mean + S D	5.33 + 2.82		6.24 + 2.35		6.38 + 2.62	
Range	(1.3 – 13)		(2.1 – 11.5)		(2.1 – 11.5)	
Sex :						
Males (n %)	33	(68.7)	21	(77.8)	14	(70)
Females (n %)	15	(31.3)	6	(22.2)	6	(30)
SBP (mmHg):						
Mean + SD	104.06 + 13.63		87.05 + 10.70		85.9 + 10.6	
Range	(70 – 130)		(50 – 110)		(50 – 100)	
Haemturia :						
- Ve (n %)	33	(68.7)	0	(0)	0	(0)
+ Ve (n %)	15	(31.3)	0	(0)	0	(0)
Proteinuria ($g/m^2/d$):						
Mean + SD	2.55 + 1.06		0.43 + .070		0.40 + .050	
Range	(1.2 – 4.8)		(0.3 – 0.8)		(0.2 –0.7)	
Serum albumin (g/dl):						
Mean + SD	1.93 + 0.52		3.56 + 1.80		3.86 + 1.83	
Range	(1.1 – 2.4)		(2.9 – 4.6)		(3.2 – 4.9)	
Serum cholesterol (mg/dl):						
Mean + SD	438.2 + 161.3		127.86 + 77.9		124.35 + 72.8	
Range	(123 – 844)		(98 – 157)		(95 – 150)	
Serum creatinine (mg/dl):						
Mean + SD	0.61 + 0.268		0.52 + 0.197		0.49 + 0.186	
Range	(0.2 – 2.2)		(0.15 – 1.4)		(0.1 – 1.1)	
Serum C_3 (mg/dl):						
Mean + SD	161.03 + 32.40		159.70 + 30.90		157.40 + 29.36	
Range	(100 – 244)		(100 – 235)		(98 – 223)	

** SBP: systolic blood pressure*

Table 3-2: Expression of 5-LO mRNA in the studied groups.

Studied groups	5- LO mRNA expression				Total
	-Ve		+ Ve		
	n	(%)	n	(%)	
Group I	0	(0)	48	(100)	48
Group II	21	(77.8)	6	(22.2)	27
Controls	20	(100)	0	(0)	20
Total	41		54		95

Chi – square test

Between all groups: $X^2 = 69.88$ P = .001*

Fisher's exact test

Between each two:

I vs II P = .001*

I vs controls P = .001*

II vs controls P = .69

Table 3-4: Grading of expression of 5-LO mRNA in steroid sensitive group.

	5- LO mRNA expression					
	+Ve		++ Ve		+++Ve	
	n	(%)	n	(%)	n	(%)
First attack	0	(0)	6	(60)	4	(40)
(n = 10)						
Infrequent relapsers	0	(0)	3	(42.9)	4	(57.1)
(n = 7)						
Frequent relapsers and steroid dependent	1	(5.8)	5	(29.4)	11	(64.8)
(n = 17)						

Chi – square test: $X^2 = 0.34$ P = 0.48 Non significant

Table 3-5: Relation between histopathological findings of renal biopsy and expression of 5-LO mRNA in steroid resistant cases.

	5- LO mRNA expression					
	+Ve		++ Ve		+++Ve	
	n	(%)	n	(%)	n	(%)
(i) F S G S	0	(0)	1	(20)	4	(80)
(n = 5)						
(ii) D M P	0	(0)	2	(50)	2	(50)
(n = 4)						
(iii) M C N S	1	(25)	2	(50)	1	(25)
(n = 4)						

Chi – square test

Between all groups:

I	**vs**	**II**	$X^2 = 0.90$	P = 0.63
I	**vs**	**controls**	$X^2 = 0.20$	P = 0.90
II	**vs**	**controls**	$X^2 = 1.85$	P = 0.39

Table 3-6: Expression of LTA_4 hydrolase mRNA in the studied groups.

Studied groups	LTA_4 hydrolase mRNA expression				Total
	-Ve		+ Ve		
	n	(%)	n	(%)	
Group I	0	(0)	48	(100)	48
Group II	13	(48.1)	14	(51.9)	27
Controls	20	(100)	0	(0)	20
Total	33		62		95

Chi – square test

Between all groups: $X^2 = 117.5$ $P = .001^*$

Fisher's exact test

Between each two:

I vs II $P = .001^*$

I vs controls $P = .001^*$

II vs controls $P = .001^*$

Table 3-7: Grading of expression of LTA_4 hydrolase mRNA in patients with steroid sensitive (group Ia) & steroid resistant (group Ib) active nephrotic syndrome.

	LTA_4 hydrolase mRNA expression			
	++Ve		**+++Ve**	
	n	**(%)**	**n**	**(%)**
Group Ia	2	(5.9)	32	(94.1)
(n = 34)				
Group Ib	0	(0)	14	(100)
(n = 14)				

Fisher's exact test: P = 0.35 Non significant.

Table 3-8: Grading of expression of LTA_4 hydrolase mRNA in steroid sensitive group.

	LTA_4 hydrolase mRNA expression			
	++Ve		+++Ve	
	n	(%)	n	(%)
* First attack	0	(0)	10	(100)
(n = 10)				
* Infrequent relapsers	0	(0)	7	(100)
(n = 7)				
* Frequent relapsers and steroid dependent	2	(11.7)	15	(88.3)
(n = 17)				

Chi – square test

Between all groups: $X^2 = 2.13$ $P = 0.34$ Non significant

Table 3-9: Relation between histopathological findings of renal biopsy and expression of LTA_4 hydrolase mRNA in steroid resistant cases.

	LTA_4 hydrolase mRNA expression (+++Ve)	
	n	(%)
(i) FSGS	5	(100)
(ii) DMP	4	(100)
(iii) MCNS	4	(100)
Total	13	(100)

Table 3-10: Kendall Tau correlation between clinical, laboratory parameters and 5-LO, LTA_4 hydrolase mRNA in active disease group

	5-LO mRNA expression		LTA_4 hydrolase mRNA expression	
	r	P	r	P
Systolic blood pressure	- .11	0.59	0.06	0.61
Serum creatinine	0.17	0.10	0.17	0.08
Serum cholesterol	0.02	0.83	0.05	0.57
Serum C_3	- .06	0.55	- .05	0.56

Table 3-11: Relation between 5-LO mRNA expression and haemturia in active disease group.

LTA_4 hydrolase mRNA expression	(+ Ve) haemturia		(- Ve) haemturia	
	n	(%)	n	(%)
+ Ve	2	(13.3)	0	(0)
++ Ve	5	(33.4)	14	(42.4)
+++ Ve	8	(53.3)	19	(57.6)
Total	15	(100)	33	(100)

Chi – square test: $X^2 = 0.93$ $P = 0.33$ Non significant

Table 3-12: Relation between LTA_4 hydrolase mRNA expression and haemturia in active disease group.

5-LO mRNA expression	(+ Ve) haemturia		(-Ve) haemturia	
	n	(%)	n	(%)
++ Ve	0	(0)	2	(6.1)
+++ Ve	15	(100)	31	(93.9)
Total	15	(100)	33	(100)

Chi – square test: $X^2 = 0.95$ $P = 0.30$ Non significant

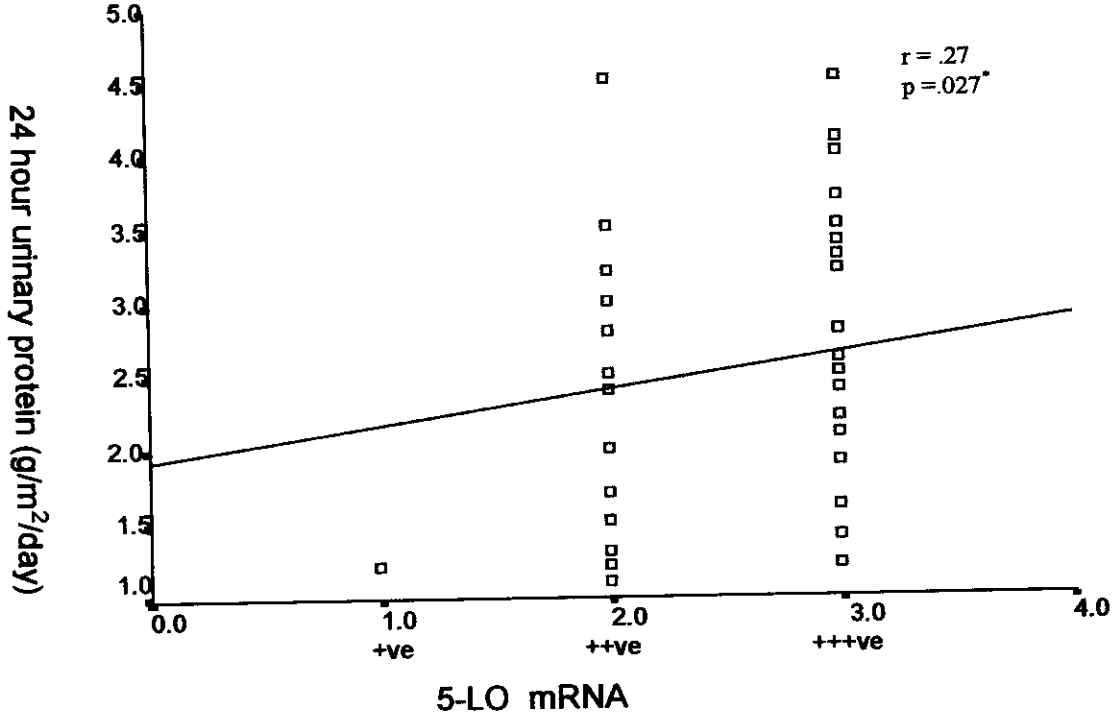

Fig.(3.1) Kendall Tau Correlation between 24 hour urinary protein and 5-LO mRNA in active group..

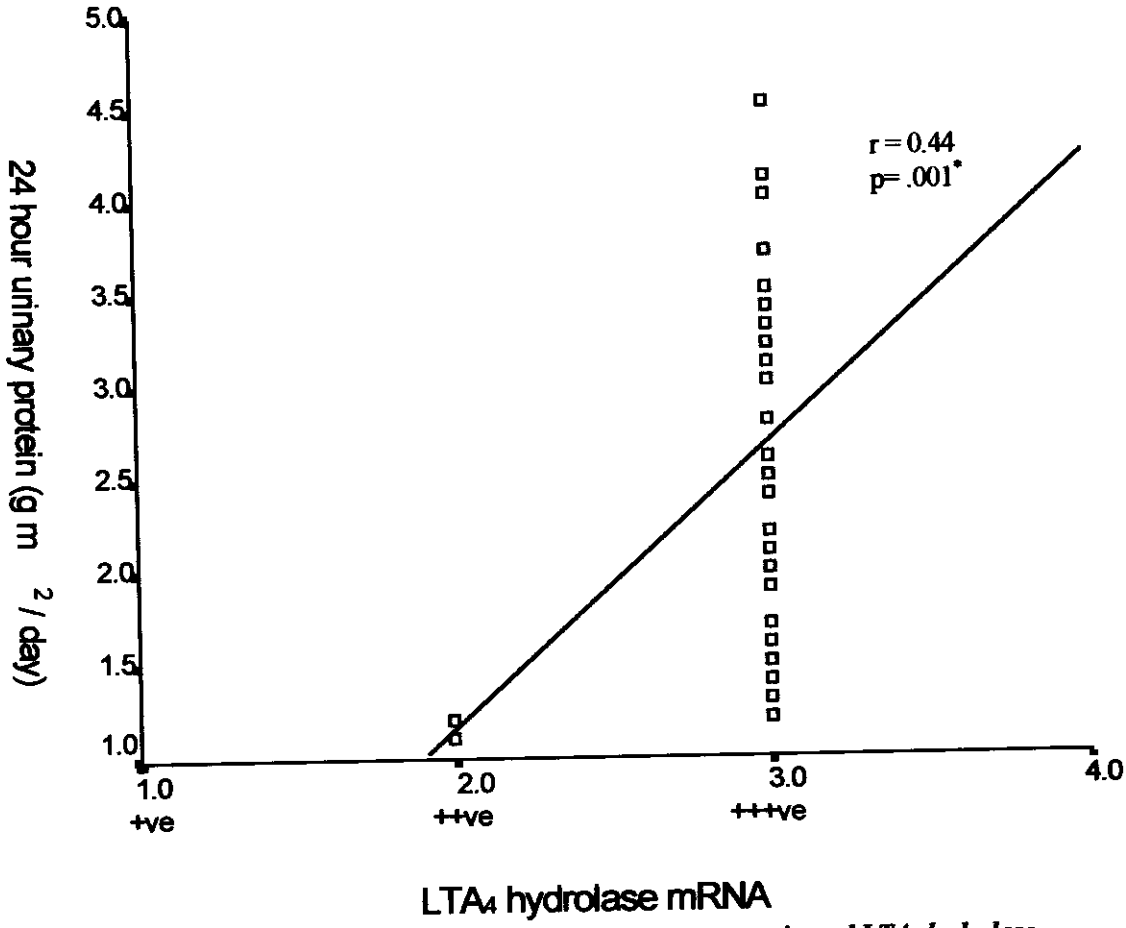

Fig.(3.2). Kendall Tau Correlation between 24 hour urinary protein and LTA_4 hydrolase mRNA in active group.

ANALYSIS OF RESULTS

Table 3-2: Shows that all patients with active disease expressed 5-LO mRNA while only 6 patients (22.2%) of patients in remission expressed 5-LO mRNA. Non of the controls expressed 5-LO mRNA. There was a significant difference in expression of 5-LO mRNA between group I & group II (P = .001*) and between group I & controls (P = .001*) while there was no significant difference in the expression of 5-LO mRNA between group II & controls.

Table 3-3: Shows that 19 patients (55.9%) of steroid sensitive group and 8 patients (57.1%) of steroid resistant group have high expression of 5-LO mRNA. Fourteen patients (41.2%) of steroid sensitive group and 5 patients (35.8%) of steroid resistant group moderately expressed 5-LO mRNA while 1 patient (2.9%) of steroid sensitive group and 1 patient (7.1%) of steroid resistant group weakly expressed 5-LO mRNA. There was no significant difference in the expression of 5-LO mRNA between steroid sensitive and steroid resistant group.

Table 3-4: Shows that 11 patients (64.8%) of frequent relapsers and steroid dependent group, 4 patients (57.1%) of infrequent relapsers group and 4 patients (40%) of 1st attack group have high expression of 5-LO mRNA. Six patients (60%) of 1st attack group, 3 patients (42.9%) of infrequent relapsers and 5 patients (29.4%) of frequent relapsers and steroid dependent group moderately expressed 5-LO mRNA while 1 patient (5.8%) of frequent relapsers and steroid dependent weakly expressed 5-LO mRNA. There was no significant deference in the expression of 5-LO mRNA between all groups of steroid sensitive patients.

Table 3-5: Shows that in patients whose renal biopsy reaveled FSGS 4 patients (80%) highly expressed 5-LO mRNA and 1 patient (20%) moderately expressed 5-LO mRNA. In DMP 2 patient (50%) highly expressed 5-LO mRNA. In MCNS 1 patient (25%) highly expressed 5-LO mRNA, 2 patients (50%) moderately expressed 5-LO mRNA and 1 patient (25%) weakly expressed 5-LO mRNA. There was no significant difference in the expression of 5-LO mRNA between all pateints with steroid resistant nephrotic syndrome whatever the result of their renal biopsy.

Table 3-6: Shows that all patients with active disease expressed LTA_4 hydrolase mRNA while 14 patients (51.9%) of patients in remission expressed LTA_4 hyndrolase mRNA. Non of the controls expressed LTA_4 hydrolase mRNA.

There was a significant difference in expression of LTA_4 hydrolase

mRNA between group I & group II ($p = .001^*$),

between group I & controls ($p = .001^*$),

and between group II & controls ($p = .001^*$).

Table 3-7: Shows that all patients of steroid resistant group and 32 patients (94.1%) of patients of steroid sensitive group highly expressed LTA_4 hydrolase mRNA while 2 patients (5.9%) of steroid sensitive group moderately expressed LTA_4 hydrolase mRNA. There was no significant difference in the expression of LTA_4 hydrolase mRNA between steroid sensitive and steroid resistant groups.

Table 3-8: Shows that all patients of 1^{st} attack group and infrequent relapsers group and 15 patient (88.3%) of frequent reapsers and steroid dependent group highly expressed LTA_4 hydrolase mRNA while 2 patients (11.7%) of frequent relapsers and steroid dependent group moderately

expressed LTA_4 hydrolase mRNA. There was no significant difference in the expression of LTA_4 hydrolase mRNA between all groups of steroid sensitive paitents.

Table 3-9: Shows that all patients highly expressed LTA_4 hydrolase mRNA whatever the result of their renal biopsy whether FSGS or DMP or MCNS.

Table 3-10: Shows that there was a weak positive correlation between 5-LO mRNA & LTA_4 hydrolase mRNA and serum creatinine, while there was no significant correlation between 5-LO, LTA_4 hydrolase mRNA and other clinical & laboratory parmeters.

Table 3-11: Shows that there was no significant difference in grading of expression of 5-LO mRNA between patients having haemturia and those who did not have haemturia.

Table 3-12: Shows that there was no significant difference in grading of expression of LTA_4 hydrolase mRNA between patients having haemturia and those who did not have haemturia.

Figure (3-1): Shows significant positive correlation between the degree of proteinuria and expression of 5-LO mRNA ($r = .27$, $P = .027$).

Figure (3-2): Shows significant positive correlation between the degree proteinuria and expression of LTA_4 hydrolase mRNA ($r = 0.44$, $P = 0.001^*$).

Figure (3-3): Shows significant positive correlation between the expression of both 5-LO & LTA_4 hydrolase mRNA in active PNS patients ($r = 77$, $P = 0.001^*$).