Results

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This study included 30 patients and 10 healthy individuals serving as a control group . The patients were divided into two groups : groups – I included fifteen cases suffering of bronchial asthma . Group – II included fifteen patients with chronic obstructive pulmonary disease (COPD)

All cases and subjects were estimate for endothelin –I (ET – 1) in plasma and in bronchoalveolar lavage fluid (BALF) .

(Control group) (n =10)

- 10 healthy volunteers
- The statistical data of the control group are shown in table 3
- the mean level of plasma endothelin – I (ET - 1) was 12.6 ±7.48 pg / ml (mean ± SD)
- Whereas the mean level of BALF (ET - 1) was 14.36 ± 5.02 pg / ml .
- There was no significant correlation between plasma or BAL ET-1 level and any of the studied parameters.

(Group – I) (n = 15)

- 15 patients with bronchial asthma

- The statistical data of group 1 are show in (table 3).

- The mean plasma ET-1 level was : 17.1 ± 10.1 pg/ml .

- The mean BAL ET – 1 level was : 19.4 ± 7.42 pg/ml .

- Comparing both plasma and BAL together showed no statistical significance with respect to their ET-1 concentration .

- Application of the unpaired "t" test revealed a non significant difference between asthma group (group I) and the control group regard plasma ET-1 level (t =1.21 , P> 0.5) . (Table 4) .

- Application of the unpaired "t" test revealed a significant difference between asthma group (group I) and the control group regard BAL ET-1 level (t= 2.23 , p< 0.05) (Table 7)

- And between group I (asthma group) and group II (COPD group) as regard plasma ET-1 level (t = -0.90 , p > 0.5) reveal non significant difference (Table 6)

- As regard BAL (ET – 1) level (t1.88 , p < 0.05) reveal significant difference (table 9)

(Group II) (n = 15)

- 15 patients with COPD .
- The statistical data of group II are showen in table (3)
- The mean plasma ET-1 level was : 20.36 ± 9.18 pg/ml
- The mean BAL ET-1 level was 11.7 ± 10.15 pg / ml
- Application of the unpaired "t" test revealed non significant difference between COPD (group II) and the control group as regard plasma ET-1 level (t=1.33 ,p> 0.5) table (5).
- Application of the unpaired "t" test revealed non significant difference between COPD group (group II) and the control group as regard BAL ET-1 level (t= -1.3 ,P> 0.5) (Table 8) .

Correlation studies were done between ET-1 in plasma and in BAL and between the age of all group. (Table 10)

In group I correlation study revealed no significant correlation between ET-1 level and the age (Table 10)

(Table 3) mean and standard Deviation of the endothelin -1 level –1 in plasma and BAL of studied groups :

Parameter		mean	S .D.	Min	Max
Control	Plasma	12.6	7.48	3.7	23.5
	BAL	14.39	5.02	1.6	22.3
Asthma	Plasma	17.16	10.11	1.0	29.0
	BAL	19.4	7.42	8.0	28.1
COPD	Plasma	20.36	9.18	3.9	28.6
	BAL	11.7	10.15	1.1	29

BAL: Broncho-alveolar lavage .

S D : significant Deviation

Min : Minimum

Max : Maximum

Table (4) : Comparative statistical study between concentration of plasma ET – 1 in control and asthma group :

Parameter	T	p	Sig
ET-1 conc	1.21	0.11	NS

Data were analyzed statistically using "t" test

ET-1 consc = Endothelin concentration

S = Significant

NS = Non significant

Table (5) : comparative statistical study between concentration of plasma ET – 1 in control and COPD group :

Parameter	t	p	Sig
ET-1 conc	1.33	0.10	NS

Data were analyzed statistically using "t" test

ET-1 consc = Endothelin concentration

S = Significant

NS = Non significant

Table (6): comparative statistical study between concentration of plasma ET – 1 in asthma and COPD group :

Parameter	t	p	Sig
ET-1 conc	0.90	1.18	NS

Data were analyzed statistically using "t" test

ET-1 consc = Endothelin concentration

S = Significant

NS = Non significant

Table (7) : comparative statistical study between concentration of ET – 1 in BAL of control and asthma group :

Parameter	t	p	Sig
ET-1 conc	2.23	0.017	S

Data were analyzed statistically using "t" test

ET-1 consc = Endothelin concentration

S = Significant

NS = Non significant

Table (8) : comparative statistical study between concentration of ET – 1 in BAL of control and COPD group :

Parameter	t	p	Sig
ET-1 conc	1.31	0.10	NS

Data were analyzed statistically using "t" test

ET-1 consc = Endothelin concentration

S = Significant

NS = Non significant

Table (9) : comparative statistical study between asthma and COPD group as regard BAL ET – 1 concentration :

Parameter	t	p	Sig
ET-1 conc	1.88	0.03	S

Data were analyzed statistically using "t" test

ET-1 consc = Endothelin concentration

S = Significant

NS = Non significant

Table (10) : Correlation study between ET-1 and the age for all groups using ranked Sperman correlation test :-

		r	p	sig
Control	Plasma ET-1 and BAL ET-1	0.01	> 0.5	NS
	Plasma ET-1 and Age of the patients	0.13	> 0.5	NS
	BAL ET-1 and Age of the patients	0.09	> 0.5	NS
Asthma	Plasma ET-1 and BAL ET-1	0.06	> 0.5	NS
	Plasma ET-1 and Age of the patients	0.24	> 0.5	NS
	BAL ET-1 and Age of the patients	0.9	> 0.5	NS
COPD	Plasma ET-1 and BAL ET-1	0.11	> 0.5	NS
	Plasma ET-1 and Age of the patients	0.22	> 0.5	NS
	BAL ET-1 and Age of the patients	0.21	> 0.5	NS

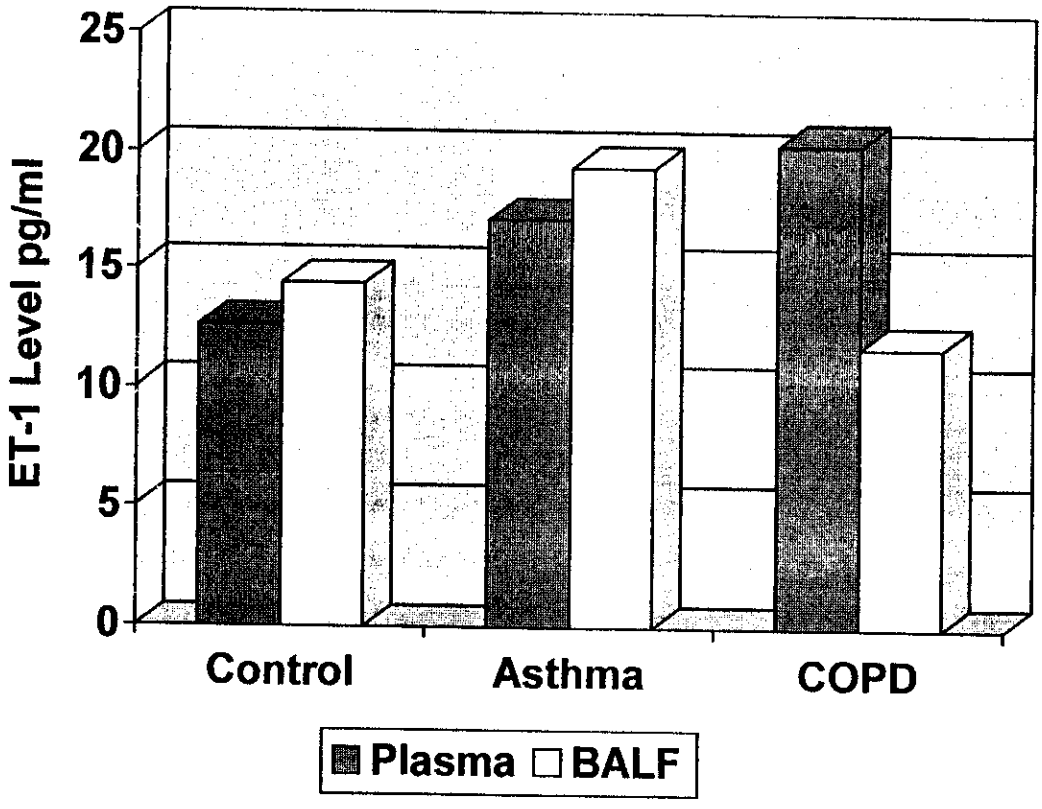

Fig. (3) Mean Endothelin-1 level in control, Asthma and COPD groups in both plasma and BALF