

RESULTS

Table (2) : Mean values $\pm$ SD of age (years) in the normal , hyperplastic and malignant groups.

Groups	No	Age (years) (Mean $\pm$ SD)	t test value	P value
1- Normal	36	41.6 $\pm$ 8.3	2.708 t ₁ 4.182 t ₂ 2.903	< 0.05 P ₁ < 0.001 P ₂ < 0.05
2- Hyperplastic	50	46 $\pm$ 6.1		
3- Malignant	7	57 $\pm$ 9.1		

Table (2) demonstrates mean values $\pm$ SD of age (years) in the normal , hyperplastic and malignant groups. The mean age in hyperplastic group is significantly higher than that in the normal group . The malignant group also shows a higher mean age than normal (P₁ < 0.001) and hyperplastic (P₂ < 0.05) .

Significant difference between the groups and subgroups is also revealed by ANOVA test (tables 3 and 4)

Table (3) : Analysis of variance (ANOVA) test of age (years) between the different groups .

Groups	No	Age (years) (Mean $\pm$ SD)	F test value	P value
1- Normal	36	41.6 $\pm$ 8.3	14.072	< 0.001*
2- Hyperplastic	50	46 $\pm$ 6.1		
3- Malignant	7	57 $\pm$ 9.1		

* Significant difference of age between groups .

No = number of patients

Table (4): Analysis of variance (ANOVA) test of age (years) between different subgroups .

Histologic subgroups	No	Age (years) (Mean $\pm$ SD)	F test value	P value
1- Normal secretory	16	39.8 $\pm$ 10.3	7.902	< 0.001 *
2-Normal proliferative	20	43 $\pm$ 5.7		
3- Simple hyperplastic	32	46.4 $\pm$ 5.9		
4-Complex hyperplastic	18	45.2 $\pm$ 6.3		
5- Malignant	7	57 $\pm$ 9.1		

* Significant difference of age between different subgroups.

No = number of patients

Table (5): Mean values $\pm$ SD of parity in the normal , hyperplastic and malignant groups .

Groups Parity	Normal (n=36)	Hyperplastic (n=50)	Malignant (n=7)
Parity Mean $\pm$ SD	4.6 $\pm$ 2.9	5 $\pm$ 2.6	5.1 $\pm$ 2.3

n = number of patients

Table (5) shows non significant difference in the mean parity between the different groups (P > 0.05) .

Table (6): Mean values $\pm$ SD of parity in normal (secretory and proliferative), hyperplastic (simple and complex) and malignant subgroups .

Subgroups (n)	Normal secretory (16)	Normal proliferative (20)	Hyperplastic simple (32)	Hyperplastic complex (18)	Malignant (7)
Parity Mean $\pm$ SD	3.4 $\pm$ 2.8	5.6 $\pm$ 2.5	5 $\pm$ 2.3	5 $\pm$ 2.9	5.1 $\pm$ 2.3

Table (6) illustrates the parity (mean $\pm$ SD) in the different subgroups . The mean parity in the proliferative normal endometrium subgroup is significantly higher than that of the secretory normal endometrium subgroup ($P < 0.05$) . Non significant difference between any of the other subgroups ($P > 0.05$) is obtained .

Table (7): Frequency of normal , hyperplastic and malignant cases according to parity using a cut off value = 3 para .

Groups parity	Normal	Hyperplastic	Malignant	Total
≤ 3 para	11 (31 %)	8 (16 %)	2 (29 %)	21
> 3 para	25 (69 %)	42 (84 %)	5 (71 %)	72
Total	36	50	7	93

$$X^2 = 2.68$$

$$P > 0.05$$

Table (7) shows that frequency of cases with ≤ 3 para is non significantly different from cases with > 3 para in the different groups ($P > 0.05$) .

Table (8): Frequency of cases in normal , hyperplastic and malignant groups according to the menopausal status.

Groups Menopausal status	Normal	Hyperplastic	Malignant	Total
Postmenopausal cases	1 (3 %)	5 (10 %)	6 (86 %)	12
Premenopausal cases	35 (97 %)	45(90 %)	1 (14 %)	81
Total	36	50	7	93

$$X^2 = 36.68$$

$$P < 0.001$$

Table (8) shows that frequency of postmenopausal cases versus premenopausal cases is higher in malignant than normal and hyperplastic groups .

The chi square (X^2) test reveals a significant difference between these groups according to the menopausal status ($P < 0.001$) .

Table (9): Frequency of cases in normal (secretory and proliferative), hyperplastic (simple and complex) and malignant subgroups according to the menopausal status .

Subgroups Menopausal status	Normal secretory	Normal proliferative	Hyperplastic simple	Hyperplastic complex	Malignant	Total
Postmenopausal cases	1 (6 %)	0 (0 %)	4 (13 %)	1 (6 %)	6(86 %)	12
Premenopausal cases	15 (94%)	20 (100%)	28 (87%)	17 (94 %)	1(14 %)	81
Total	16	20	32	18	7	93

$$X^2 = 51.98$$

$$P < 0.001$$

Table (9) demonstrates that frequency of postmenopausal cases versus premenopausal is higher in malignant group than normal (secretory and proliferative) and hyperplastic (simple and complex) subgroups .

Table (10): Flow cytometric DNA ploidy pattern in endometrium of normal , hyperplastic and malignant groups .

DNA ploidy pattern \ Groups	Normal	Hyperplastic	Malignant	Total
Diploid	36 (100 %)	49 (98 %)	1 (14 %)	86
Non-diploid	0 (0 %)	1 (2 %)	6 (86 %)	7
Total	36	50	7	93

$$X^2 = 66.60$$

$$P < 0.001$$

Table (10) illustrates the FCM DNA ploidy pattern in the normal , hyperplastic and malignant groups . In the normal group 36 cases (100%) are diploid , in the hyperplastic group 49 cases (98 %) are diploid and one (2%) case is non-diploid (aneuploid) , while in the malignant group 1 case (14%) is diploid and 6 cases (86 %) are non-diploid . The chi square (X^2) reveals a significant difference in the DNA ploidy pattern ($P < 0.001$) between the different groups .

Table (11): Flow cytometric DNA ploidy pattern of endometrium in normal (secretory and proliferative) ,hyperplastic (simple and complex) and malignant subgroups .

Subgroups DNA ploidy pattern	Normal secretory	Normal proliferative	Hyperplastic simple	Hyperplastic complex	Malignant	Total
Diploid	16 (100%)	20 (100%)	32 (100%)	17 (94%)	1 (14 %)	86
Non-diploid	0 (0%)	0 (0%)	0 (0%)	1 (6%)	6 (86%)	7
Total	16	20	32	18	7	93

$$X^2 = 67.1$$

$$P < 0.001$$

Table (11) illustrates the DNA ploidy pattern in normal (secretory and proliferative) , hyperplastic (simple and complex) and malignant subgroups . In the secretory and proliferative normal endometrium and simple hyperplastic subgroups 100% of cases are diploid , while in the complex hyperplastic subgroup, 17 (94%) are diploid and 1 case (6 %) is non-diploid . The chi square (X^2) test shows significant difference in DNA ploidy pattern ($P < 0.001$) between the hyperplastic subgroups .

Table (12): Frequency of diploid and non-diploid cases in all patients according to age using a cut off value of 40 years .

Age Ploidy pattern	≤ 40 years	> 40 years	Total
Diploid	18 (100 %)	68 (19 %)	86
Non-diploid	0 (0 %)	7 (9 %)	7
Total	18	75	93

Table (12) represents that 100 % of cases ≤ 40 years are diploid , while 9 % of cases > 40 years are non-diploid which is a significant difference .

Table (13): Frequency of diploid and non-diploid cases according to parity using a cut off value = 3 para .

Parity Ploidy pattern	≤ 3 para	> 3 para	Total
Diploid	19 (90 %)	67 (93 %)	86
Non-diploid	2 (10 %)	5 (7 %)	7
Total	21	72	93

$$X^2 = 0.13$$

$$P > 0.05$$

Non significant difference is shown in table (13) between diploid and non-diploid cases using a cut off value = 3 para .

Table (14): Frequency of diploid and non-diploid cases according to the menopausal status of all cases.

Menopausal status Ploidy pattern	Premenopausal cases	Postmenopausal cases	Total
Diploid	80 (99 %)	6 (50 %)	86
Non-diploid	1 (1 %)	6 (50 %)	7
Total	81	12	93

$$X^2 = 33.56$$

$$P < 0.001$$

Table (14) shows that 1 % of premenopausal cases are non-diploid , while 50 % of postmenopausal cases are non-diploid , which is a statistically significant difference ($X^2 = 33.56$, $P < 0.001$) .

Table (15): Mean values $\pm$ SD of flow cytometric S-phase fraction (SPF) in normal , hyperplastic and malignant groups .

Groups	No	SPF (Mean $\pm$ SD)	t test value	P value
1- Normal	36	5.54 $\pm$ 1.73		
2- Hyperplastic	50	5.63 $\pm$ 2.50	0.179	> 0.05
3- Malignant	7	13.73 $\pm$ 6.44	t ₁ 3.342 t ₂ 3.294	P ₁ < 0.01 P ₂ < 0.01

SPF is shown in table (15) , the mean SPF in hyperplastic group is not significantly different from that of normal group ($P > 0.05$) , while SPF in the malignant group is significantly higher than the normal ($P_1 < 0.01$) and hyperplastic ($P_2 < 0.01$) groups .

Table (16): Mean values $\pm$ SD of flow cytometric S-phase fraction (SPF) in normal (secretory and proliferative) , hyperplastic (simple and complex) and malignant subgroups.

Histologic subgroups	No	SPF (Mean $\pm$ SD)	t test value	P value
1- Normal secretory	16	5.28 $\pm$ 1.37	0.888	>0.05
2- Normal proliferative	20	5.76 $\pm$ 1.9		
3- Hyperplastic simple	32	5.23 $\pm$ 2.28		
4-Hyperplastic complex	18	6.32 $\pm$ 2.66	1.461	> 0.05
5- Malignant	7	13.73 $\pm$ 6.44	t ₁ 3.442	P ₁ < 0.01
			t ₂ 3.227	P ₂ < 0.01
			t ₃ 3.445	P ₃ < 0.01
			t ₄ 2.949	P ₄ < 0.05

Table (16) shows mean values $\pm$ SD of SPF in the different subgroups . The mean SPF in the proliferative subgroup is not significantly different from the secretory one (P >0.05) . Also non significant difference is revealed between simple and complex hyperplastic subgroups (P >0.05) . Whereas SPF in the malignant group is significantly higher than normal (secretory and proliferative), simple hyperplastic (P <0.01) and complex hyperplastic (P₄ <0.05) subgroups .

t₁ & P₁ compared to normal secretory.
t₂ & P₂ compared to normal proliferative.
t₃ & P₃ compared to simple hyperplastic.
t₄ & P₄ compared to complex hyperplastic.

Table (17): Analysis of variance (ANOVA) test of SPF between the various groups .

Groups	No	SPF (Mean $\pm$ SD)	F test value	P value
1- Normal	36	5.54 $\pm$ 1.73	29.24	< 0.001
2- Hyperplastic	50	5.63 $\pm$ 2.50		
3- Malignant	7	13.73 $\pm$ 6.44		

The ANOVA test of SPF between the different groups is represented in table (17) , the F test reveals a significant difference between these groups (P <0.001) .

Table (18): Analysis of variance (ANOVA) test of flow cytometric S-phase fraction between the different histologic subgroups of the endometrium .

Histologic subgroups	No	SPF (Mean $\pm$ SD)	F test value	P value
1- Normal secretory	16	5.28 $\pm$ 1.37	4.927	< 0.001
2-Normal proliferative	20	5.76 $\pm$ 1.9		
3- Simple hyperplastic	32	5.23 $\pm$ 2.28		
4-Complex hyperplastic	18	6.32 $\pm$ 2.66		
5- Malignant	7	13.73 $\pm$ 6.44		

Table (18) demonstrates the ANOVA test of SPF between the different histologic subgroups . There is also a significant difference between these subgroups (P < 0.001) .

Table (20): Mean values $\pm$ SD of c-erbB-2 oncoprotein (HNU / μ g protein) in normal , hyperplastic and malignant groups.

Groups (n)	Normal (n=36)	Hyperplastic (n=50)	Malignant (n=7)
c-erbB-2 Mean $\pm$ SD (HNU/ μ g protein)	1.47 $\pm$ 0.84	2.40 $\pm$ 2.46*	3.74 $\pm$ 2.45*

* Significant difference compared to normal ($P < 0.05$) .

Table (20) shows mean values $\pm$ SD of c-erbB-2 oncoprotein in normal , hyperplastic and malignant groups . The mean c-erbB-2 in hyperplasia and malignant groups is significantly higher than that in the normal group ($P < 0.05$) , but no significant difference is shown between malignant and hyperplastic groups ($P > 0.05$) .

Table (21): Mean values $\pm$ SD of c-erbB-2 oncoprotein (HNU / μ g protein) in the normal (secretory and proliferative) , hyperplastic (simple and complex) and malignant subgroups .

Subgroups (n)	Normal secretory (16)	Normal proliferative (20)	Hyperplastic simple (32)	Hyperplastic complex (18)	Malignant (7)
c-erbB-2 Mean $\pm$ SD (HNU/ μ g protein)	1.55 $\pm$ 0.73	1.41 $\pm$ 0.89	2.37 $\pm$ 2.50	2.46 $\pm$ 2.32	3.74 $\pm$ 2.45*

* Significant difference compared to normal endometrium (secretory and proliferative) ($P < 0.05$) .

Table (21) illustrates mean values $\pm$ SD of c-erbB-2 oncoprotein (HNU/ μ g protein) in normal (secretory and proliferative) , hyperplastic (simple and complex) and malignant subgroups . No significant difference is shown in c-erbB-2 between subgroups in both normal and hyperplastic groups ($P > 0.05$) , while the mean c-erbB-2 in the malignant group is significantly higher than normal (secretory and proliferative) subgroups ($P < 0.05$) but not significantly higher than hyperplastic (simple and complex) subgroups ($P > 0.05$) .

Table (22): Analysis of variance (ANOVA) test of c-erbB-2 oncoprotein (HNU/ μ g protein) between the various groups .

Groups	No	c-erbB-2 (Mean $\pm$ SD)	F test value	P value
1- Normal	36	1.47 $\pm$ 0.84	4.719	< 0.001
2- Hyperplastic	50	2.40 $\pm$ 2.46		
3- Malignant	7	3.74 $\pm$ 2.45		

Table (22) represents the ANOVA test of c-erbB-2 oncoprotein (HNU/ μ g protein) between the different groups . The F test value reveals a significant difference between these groups (P <0.001) .

Table (23): Analysis of variance (ANOVA) test of c-erbB-2 oncoprotein (HNU/ μ g protein) between the different histologic subgroups of the endometrium.

Histologic subgroups	No	c-erbB-2 (Mean $\pm$ SD)	F test value	P value
1- Normal secretory	16	1.55 $\pm$ 0.73	0.731	> 0.05
2-Normal proliferative	20	1.41 $\pm$ 0.89		
3- Simple hyperplastic	32	2.37 $\pm$ 2.50		
4-Complex hyperplastic	18	2.46 $\pm$ 2.32		
5- Malignant	7	3.74 $\pm$ 2.45		

Table (23) shows the ANOVA test of c-erbB-2 oncoprotein between the different subgroups . The F test reveals non significant difference between these subgroups (P >0.05) .

Table (24): Frequency of normal , hyperplastic and malignant cases using different c-erbB-2 oncoprotein cut off values .

c-erbB-2 (HNU/μg protein)	Groups (n)	Normal (n=36)	Hyperplastic (n = 50)	Malignant (n = 7)	X²	P value
≤ 2.55		34 (94%)	39 (78%)	3 (43%)	11.84	<0.05
> 2.55		2 (6 %)	11(22%)	4 (57 %)		
≤ 3.15		35 (97%)	40 (80%)	3 (43 %)	13.99	<0.01
> 3.15		1 (3 %)	10 (20%)	4 (57%)		
≤ 3.46		36 (100%)	42(84%)	4(57%)	12.1	<0.01
> 3.46		0 (0%)	8(16%)	3(43%)		

Table (24) demonstrates frequency of cases above and below different cut off levels of **c-erbB-2** oncoprotein (HNU/ μ g tissue protein) ; 2,55 HNU/ μ g protein= the 95th percentile of normal cases ; 3.15 HNU/ μ g protein = the mean value + 2 SD of normal group and 3.46 HNU/ μ g protein = the highest normal value of our normal cases.

The chi square test (X²) reveals a significant difference between frequency of normal , hyperplastic and malignant cases with **c-erbB-2** > 2.55 ; 3.15 and 3.46 HNU/ μ g protein versus those ≤ 2.55 ; 3.15 and 3.46 (**P** < 0.05 ; <0.01 and <0.01 respectively) .

Table (25):Positivity rates of c-erbB-2 oncoprotein (cut off value = 3.15 HNU/ μ g protein) according to the menopausal status of all patients .

c-erbB-2 \ Menopausal status	Premenopausal cases	Postmenopausal cases	Total
>3.15 HNU/μg protein	9 (11 %)	6 (50 %)	15
$\leq$ 3.15 HNU/μg protein	72 (89 %)	6 (50 %)	78
Total	81	12	93

$$X^2 = 11.97$$

$$P < 0.01$$

Table (25) shows the positivity rates of c-erbB-2 using a cut off value = 3.15 HNU/ μ g protein (mean normal + 2 SD of normal cases) according to the menopausal status , the chi square test reveals a significant difference between frequency of premenopausal and postmenopausal cases with c-erbB-2 > 3.15 HNU/ μ g protein versus those $\leq$ 3.15 HNU/ μ g protein (P < 0.01).

Table (26):Positivity rates of c-erbB-2 oncoprotein (cut off value = 3.15 HNU/ μ g protein) according to the ploidy status of all patients .

Ploidy pattern	Diploid	Non-Diploid	Total
c-erbB-2			
c-erbB-2 > 3.15 HNU/μg protein	13 (15%)	2 (29%)	15
c-erbB-2 $\leq$ 3.15 HNU/μg protein	73 (85%)	5 (71%)	78
Total	86	7	93

$$X^2 = 0.86$$

$$P > 0.05$$

Table (26) shows that 73 cases (85 %) of the diploid cases have c-erbB-2 $\leq$ 3.15 HNU/ μ g protein , while 2 cases (29 %) of the non-diploid cases have c-erbB-2 > 3.15 HNU/ μ g protein which was statistically non significant $X^2 = 0.86$ $P > 0.05$.

Table (27):Positivity rates of c-erbB-2 oncoprotein (cut off value = 3.15 HNU/ μ g protein) according to SPF (cut of value = 9)

SPF	SPF > 9	SPF $\leq$ 9	Total
c-erbB-2			
c-erbB-2 > 3.15 HNU / μg protein	6 (55%)	9 (11%)	15
c-erbB-2 $\leq$ 3.15 HNU/ μg protein	5 (45%)	73 (89 %)	78
Total	11	82	93

$$X^2 = 13.61$$

$$P < 0.01$$

Table (27) represents that 6 cases (55%) with SPF > 9 have c-erbB-2 oncoprotein level > 3.15 HNU/ μ g protein , while 73 cases (89%) with SPF $\leq$ 9 have c-erbB-2 oncoprotein level $\leq$ 3.15 HNU/ μ g protein which was statistically significant $X^2 = 13.61$ $P < 0.05$.

Table (28):Positivity rates of all cases according to age (using a cut off value = 40 years) and c-erbB-2 (using a cut off value = 3.15 HNU/ μ g protein) .

c-erbB-2 \ Age	≤ 40 years	> 40 years	Total
>3.15 HNU/μg protein	1 (6 %)	14 (19 %)	15
≤ 3.15 HNU/μg protein	17 (94 %)	61 (81 %)	78
Total	18	75	93

$$X^2 = 4.09$$

$$P < 0.05$$

Table (28) shows that only 6% of cases ≤ 40 years have c-erbB-2 value > 3.15 HNU/ μ g protein , while 81 % of cases > 40 years have c-erbB-2 value ≤ 3.15 HNU/ μ g protein , a statistically significant difference ($P < 0.05$).

Table (29): Mean values $\pm$ SD of serum CEA (ng/ml) in normal , hyperplastic and malignant groups .

Groups	No	CEA (Mean $\pm$ SD)	t test value	P value
1- Normal	36	3.72 $\pm$ 0.54		
2- Hyperplastic	50	3.75 $\pm$ 0.60	0.281	> 0.05
3- Malignant	7	3.83 $\pm$ 0.17	t ₁ 1.002 t ₂ 0.104	P ₁ > 0.05 P ₂ > 0.05

Mean values $\pm$ SD of serum CEA (ng / ml) in normal ,hyperplastic and malignant groups is illustrated in table (29) . There is non significant difference between these groups ($P > 0.05$) .

Table (30): Mean values $\pm$ SD of serum CEA (ng/ml) in normal (secretory and proliferative) , hyperplastic (simple and complex) and malignant subgroups .

Histologic subgroups	No	CEA (Mean $\pm$ SD)	t test value	P value
1- Normal secretory	16	3.62 $\pm$ 0.63	0.990	>0.05
2- Normal proliferative	20	3.80 $\pm$ 0.42		
3- Hyperplastic simple	32	3.74 $\pm$ 0.7	0.284	>0.05
4- Hyperplastic complex	18	3.78 $\pm$ 0.34		
5- Malignant	7	3.83 $\pm$ 0.17	t ₁ 1.248	P ₁ > 0.05
			t ₂ 0.270	P ₂ >0.05
			t ₃ 0.653	P ₃ >0.05
			t ₄ 0.478	P ₄ >0.05

In histologic subgroups there is also no significant difference in mean CEA levels between the different subgroups as shown in table (30).

Table (31): Analysis of variance (ANOVA) test of serum CEA (ng/ml) between the different groups.

Groups	No	CEA (Mean $\pm$ SD)	F test value	P value
1- Normal	36	3.72 $\pm$ 0.54	0.126	> 0.05
2- Hyperplastic	50	3.75 $\pm$ 0.60		
3- Malignant	7	3.83 $\pm$ 0.17		

Non significant difference in CEA between the studied groups is represented in table (31) revealed by the ANOVA test .

No = number of patients .

Table (32): Analysis of variance (ANOVA) test of serum CEA (ng/ml) between the different subgroups .

Histologic subgroups	No	CEA (Mean $\pm$ SD)	F test value	P value
1- Normal secretory	16	3.62 $\pm$ 0.63	0.097	>0.05
2-Normal proliferative	20	3.8 $\pm$ 0.42		
3- Simple hyperplastic	32	3.74 $\pm$ 0.7		
4-Complex hyperplastic	18	3.78 $\pm$ 0.34		
5- Malignant	7	3.83 $\pm$ 0.17		

Also non significant difference is shown in table (32) using ANOVA test between the different subgroups ($P > 0.05$) .

Table (33):Correlation coefficient (r) between age ,parity, c-erbB-2 and SPF in the normal group (n=36).

	c-erbB-2	SPF	CEA
Age	0.2618 (NS)	0.0671 (NS)	0.0887 (NS)
Parity	0.1145 (NS)	- 0.0304 (NS)	0.0464 (NS)
c-erbB-2	1	-0.0312 (NS)	-0.0933 (NS)
CEA	-0.0933 (NS)	-0.0400 (NS)	1

NS = Non significant

Non significant correlation is shown in table (33) between age ,parity ,c-erbB-2 , CEA and SPF in the normal group .

Table (34): The correlation coefficient (r) between age ,parity , c-erbB-2 , CEA and SPF in the hyperplastic group (n= 50).

	c-erbB-2	SPF	CEA
Age	0.0530 (NS)	0.0759 (NS)	-0.0423 (NS)
Parity	-0.0376 (NS)	0.3290*	-0.0491 (NS)
c-erbB-2	1	0.0373 (NS)	0.0177 (NS)
CEA	0.0177 (NS)	-0.2140 (NS)	1

* Significant positive correlation ($P < 0.05$) .

Table (34) reveals a significant positive correlation between parity and SPF , but no significant correlation is detected between other parameters in the hyperplastic group.

Table (35):Correlation coefficient (r) between age ,parity ,c-erbB-2, CEA, DI, SPF and grade in the malignant group (n= 7).

	c-erbB-2	SPF	CEA	DI	Grade
Age	0.2160 (NS)	0.3283 (NS)	0.1539 (NS)	0.6114 (NS)	0.6475 (NS)
Parity	-0.5789 (NS)	-0.0436 (NS)	-0.1388 (NS)	0.0289 (NS)	-0.1345 (NS)
c-erbB-2	1	-0.5982 (NS)	-0.3096 (NS)	-0.4137 (NS)	-0.3614 (NS)
CEA	-0.3096 (NS)	0.2093 (NS)	1	0.1911 (NS)	0.0708 (NS)
DI	-0.4137 (NS)	0.8644*	0.1911 (NS)	1	0.9395*
Grade	-0.3614 (NS)	0.8875*	0.0708 (NS)	0.9395*	1

* Significant positive correlation ($P < 0.05$) .

The r values in table (35) indicates a positive significant correlation between tumor grade and both DI and SPF , also between the DI and SPF while non significant correlation is detected between other parameters in the malignant group .

Table (36) :Age , parity, menopausal status, c-erbB-2, CEA, ploidy pattern, DI and SPF in the normal secretory group (n= 16) .

No	Age (years)	parity	Menopausal status	c-erbB-2 (HNU/ μ g protein)	CEA (ng/ml)	DNA Ploidy pattern	DI	SPF
1	24	5	pre	2.4	3.8	D	1	5.8
2	40	5	pre	1.53	3.83	D	1	4.5
3	35	0	pre	1.79	3.8	D	1	3.6
4	45	3	pre	2	4.2	D	1	6.2
5	48	8	pre	1.14	3.61	D	1	6.7
6	45	1	pre	2	3.8	D	1	4
7	40	3	pre	2	4.42	D	1	5.3
8	50	6	pre	0.44	3.03	D	1	8.5
9	32	1	pre	2.67	3.69	D	1.01	5.3
10	45	8	pre	2	3.47	D	1.06	6.2
11	24	0	pre	0.56	1.48	D	1	3.5
12	60	7	post	1.51	3.47	D	1	4.8
13	40	5	pre	2	3.87	D	1	4.5
14	21	0	pre	0.39	3.80	D	1	6.2
15	47	4	pre	2	3.81	D	1	6.2
16	23	0	pre	0.29	3.8	D	1	3.1

Pre = premenopausal
Post = postmenopausal
D = diploid

DI = DNA index
SPF = S-phase fraction
n = number of patients

Table (37): Age, parity, menopausal status, c-erbB-2 ,CEA , ploidy pattern ,
DI and SPF in the normal proliferative group (n =20) .

No	Age (years)	Parity	Menopausal status	c-erbB-2 (HNU/ μ g protein)	CEA	DNA Ploidy pattern	DI	SPF
1	44	7	pre	2	3.58	D	1	6.1
2	31	0	pre	0.56	4.02	D	1.02	3.5
3	47	10	pre	1.04	3.83	D	1	4.7
4	45	5	pre	2	4.24	D	1	6.3
5	47	8	pre	1.2	3.54	D	1	3.5
6	47	5	pre	2.55	3.11	D	1	7.2
7	41	5	pre	0.13	4.85	D	1	6.2
8	42	4	pre	0.28	3.69	D	1	9
9	45	9	pre	2	3.8	D	1	3.5
10	45	5	pre	0.28	3.51	D	1.04	8.2
11	45	5	pre	0.8	3.47	D	1.03	7.5
12	24	0	pre	0.79	4.67	D	1.01	4.4
13	43	6	pre	2.21	3.43	D	1	8
14	48	5	pre	1.04	3.65	D	1	8.6
15	45	3	pre	3.46	3.43	D	1	3.5
16	45	6	pre	1.23	3.72	D	1	3.6
17	47	8	pre	0.31	3.69	D	1	3.1
18	41	7	pre	1.95	4.35	D	1	5.1
19	40	6	pre	2.46	3.76	D	1.02	6.2
20	47	8	pre	1.86	3.61	D	1	7

Table (38): Age, parity, menopausal status, c-erbB-2 ,CEA, ploidy pattern, DI and SPF in the simple hyperplastic group (n =32) .

No	Age (years)	parity	Menopausal status	c-erbB-2 (HNU/ μ g protein)	CEA	DNA ploidy pattern	DI	SPF
1	43	3	pre	1.48	3.91	D	1	4.3
2	49	6	pre	4.44	3.65	D	1	5.5
3	64	6	post	0.94	3.8	D	1	5.6
4	43	6	pre	0.99	4.38	D	1	3.9
5	52	7	post	2.64	4.53	D	1	5
6	46	0	ore	0.74	3.83	D	1	1.8
7	48	4	pre	4.17	3.4	D	1	1.3
8	46	6	pre	2	3.4	D	1	5.7
9	43	5	pre	0.66	4.53	D	1	0.6
10	42	4	pre	2	0.43	D	1	6
11	44	8	pre	1.29	3.47	D	1	6.8
12	40	5	pre	2.16	3.51	D	1	6.2
13	50	8	pre	0.69	3.69	D	1	5.3
14	64	12	post	2.25	3.8	D	1.01	9.9
15	43	3	pre	1.5	4.27	D	1	4.3
16	48	2	pre	1.5	4.31	D	1	2.8
17	45	6	pre	7.78	4.24	D	1.01	3.9
18	43	5	pre	12.99	3.72	D	1.03	4.8
19	34	2	pre	2	4.13	D	1.01	3
20	46	4	pre	2	4.78	D	1	3.9
21	46	4	pre	0.76	3.32	D	1	7.9
22	45	4	pre	2.22	3.65	D	1	8.9
23	55	3	post	0.47	3.54	D	1	3.7
24	45	4	pre	0.61	3.4	D	1	9.5
25	45	7	pre	0.93	4.13	D	1.02	3.5
26	46	5	pre	2	3.8	D	1	6.2
27	44	5	pre	1.27	3.51	D	1.04	4.7
28	40	4	pre	6.7	3.76	D	1	9.2
29	46	4	pre	2	3.80	D	1	3.2
30	50	4	pre	2	3.81	D	1	6.2
31	46	10	pre	1.23	3.58	D	1	6.2
32	45	3	pre	1.27	3.51	D	1	7.7

Table (39):Age , parity, menopausal status, c-erbB-2 ,CEA, ploidy pattern, DI and SPF in the complex hyperplastic group (n = 18) .

No	Age (years)	Parity	Menopausal status	c-erbB-2 (HNU/ μ g protein)	CEA	DNA Ploidy pattern	DI	SPF
1	40	4	pre	1.15	4.24	D	1	6.9
2	33	0	pre	0.62	3.29	D	1	6.8
3	40	4	pre	2	4.42	D	1	7.4
4	41	6	pre	2	3.87	D	1	9.3
5	48	10	pre	1.69	3.65	D	1.04	9.8
6	45	4	pre	2	3.43	D	1	6.2
7	49	4	pre	0.58	3.61	D	1	2.7
8	48	5	pre	3.39	3.36	D	1	6.2
9	46	8	pre	0.30	3.83	D	1	4.8
10	52	0	pre	10.7	3.87	D	1.05	3.3
11	47	5	pre	2	3.69	D	1	3.5
12	64	11	post	4.07	4.09	D	1	6.1
13	46	6	pre	0.65	3.43	D	1	7.5
14	42	6	pre	3.46	4.2	D	1.02	5.6
15	46	7	pre	4.53	3.24	D	1	5.1
16	40	0	pre	1.16	4.2	D	1	2.6
17	42	5	pre	2	3.8	A	1.7	13.7
18	44	5	pre	2	3.8	D	1	6.2

pre = premenopausal
post = postmenopausal
D = Diploid
n = number of patients

DI = DNA index
SPF = S-phase fraction
A = Aneuploid

Table (40): Age , parity, menopausal status, c-erbB-2 , CEA , ploidy pattern , DI and SPF in the malignant group (n = 7) .

No	Age (years)	Parity	Menopausal status	c-erbB-2 (HNU/ μ g protein)	CEA	DNA Ploidy pattern	DI	SPF
1	59	7	post	4.25	3.76	A	1.89	21.7
2	54	5	post	1,24	3.98	A	1.88	22.8
3	43	7	pre	2	3.58	D	1	3.6
4	53	3	post	3.19	3.72	A	1.21	13.6
5	54	5	post	4.1	4.16	A	1.21	13.7
6	75	1	post	9.2	3.8	A	1.7	1.34
7	61	8	post	2.21	3.8	A	1.7	7.3

A = aneuploid

Fig. (1)

**Flow Cytometric DNA ploidy pattern of endometrium
in the different groups.**

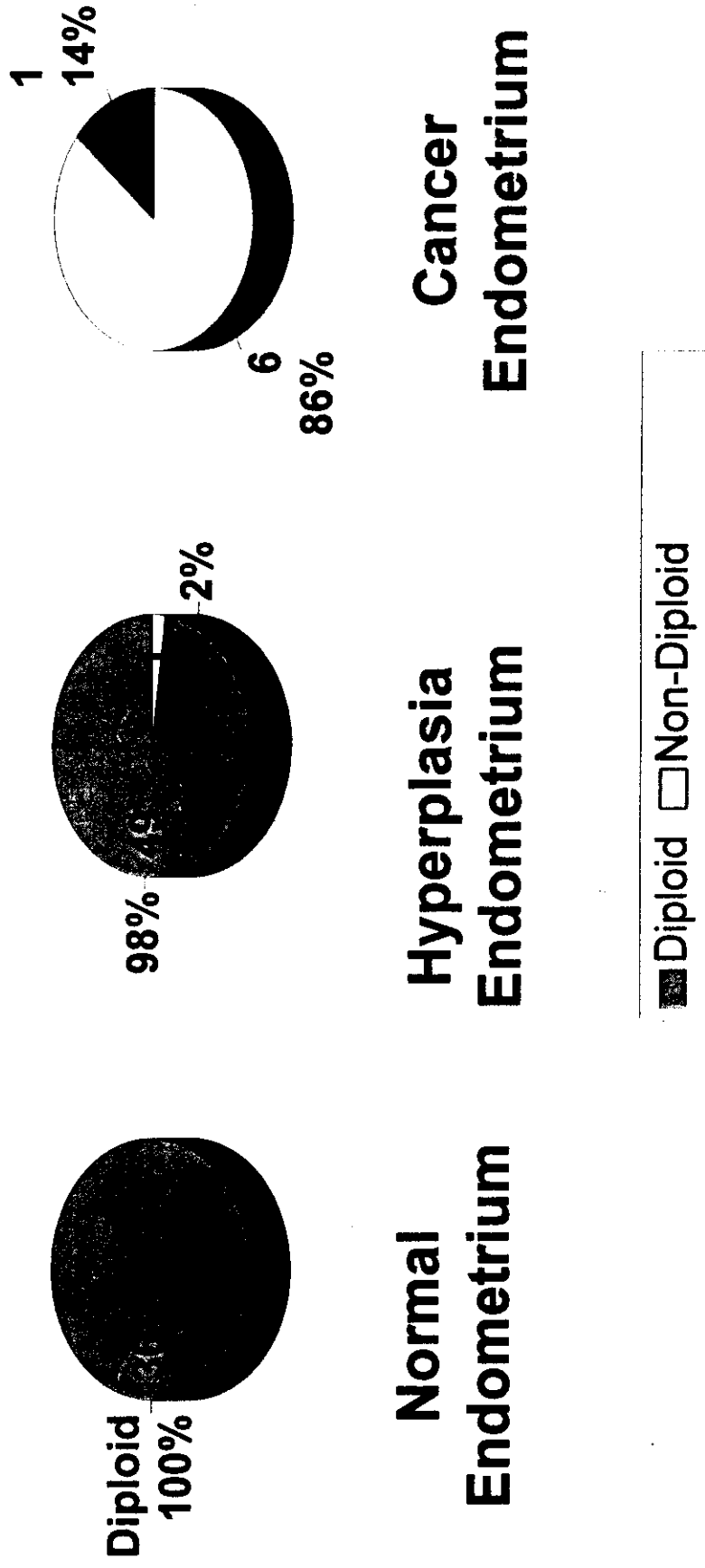


Fig. (2)

**Flow Cytometric DNA ploidy pattern in secretory and
proliferative normal endometrium.**

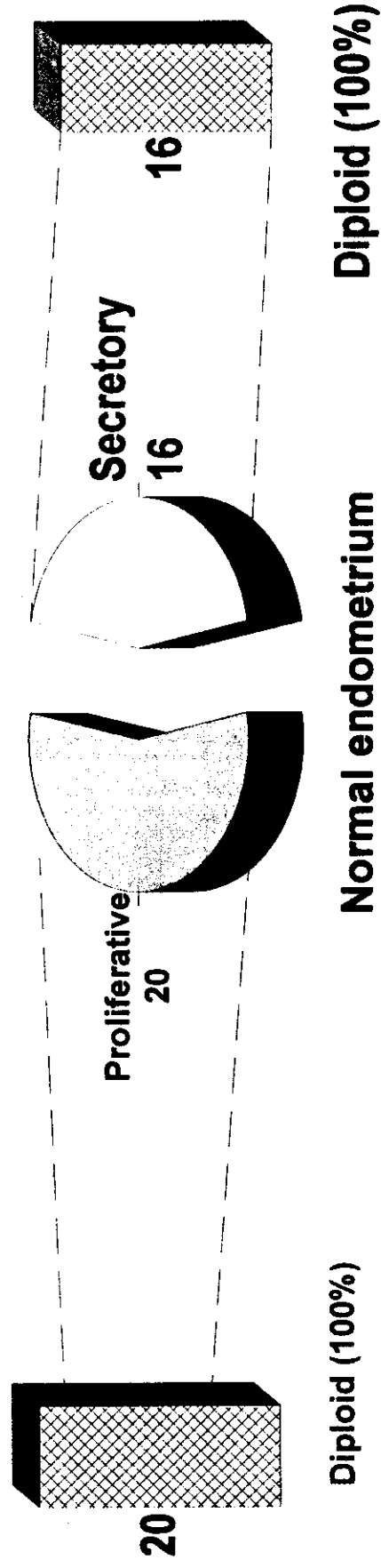


Fig. (3)

Flow Cytometric DNA ploidy pattern in simple and complex hyperplastic endometrium.

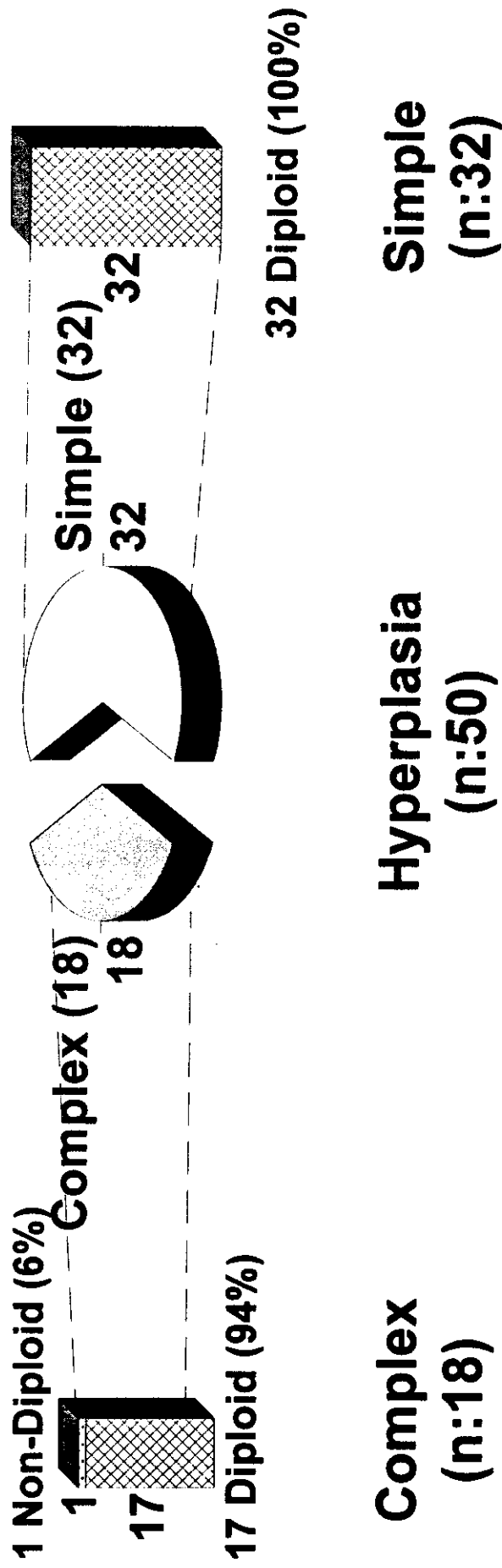
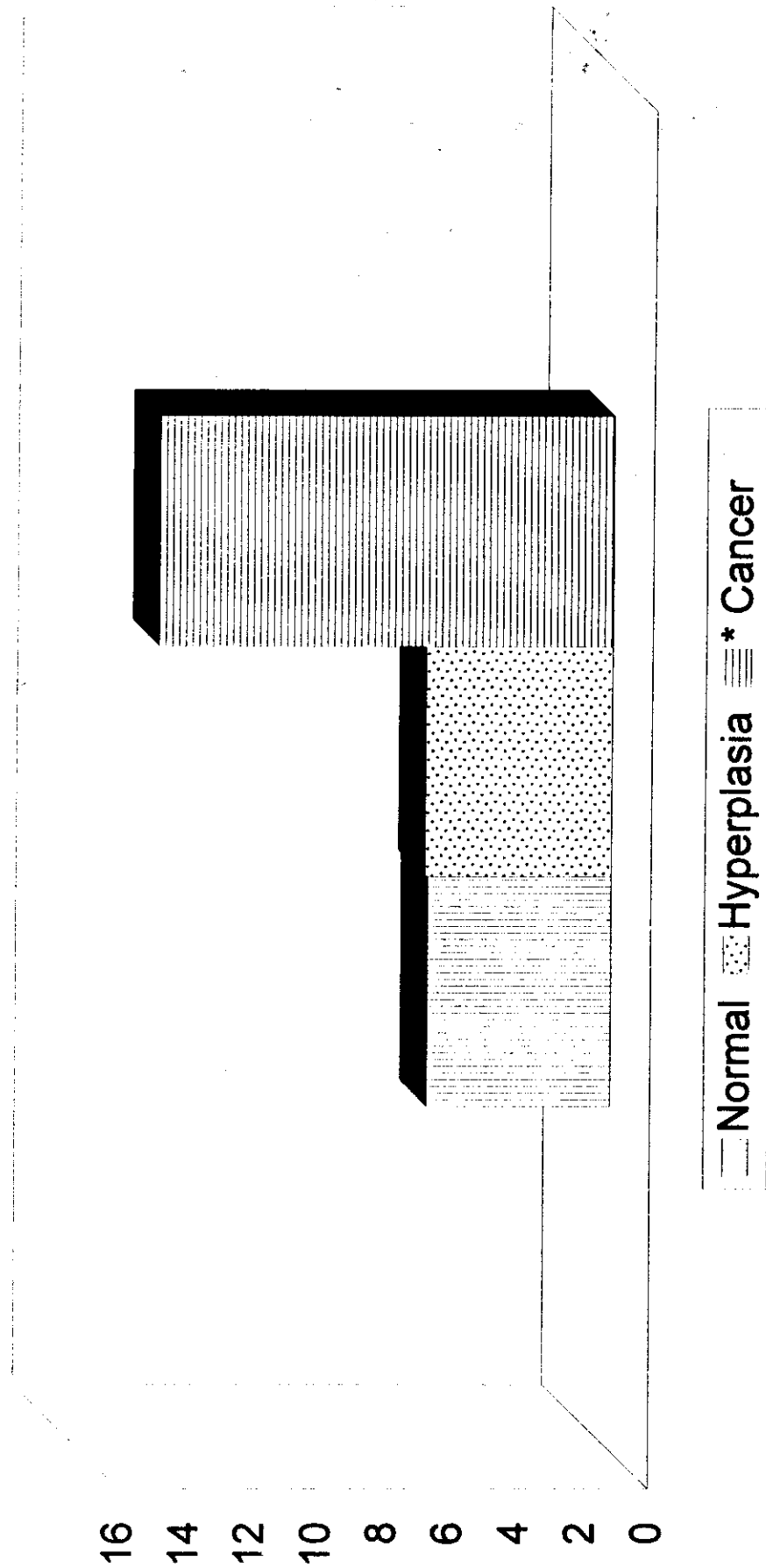


Fig (4)

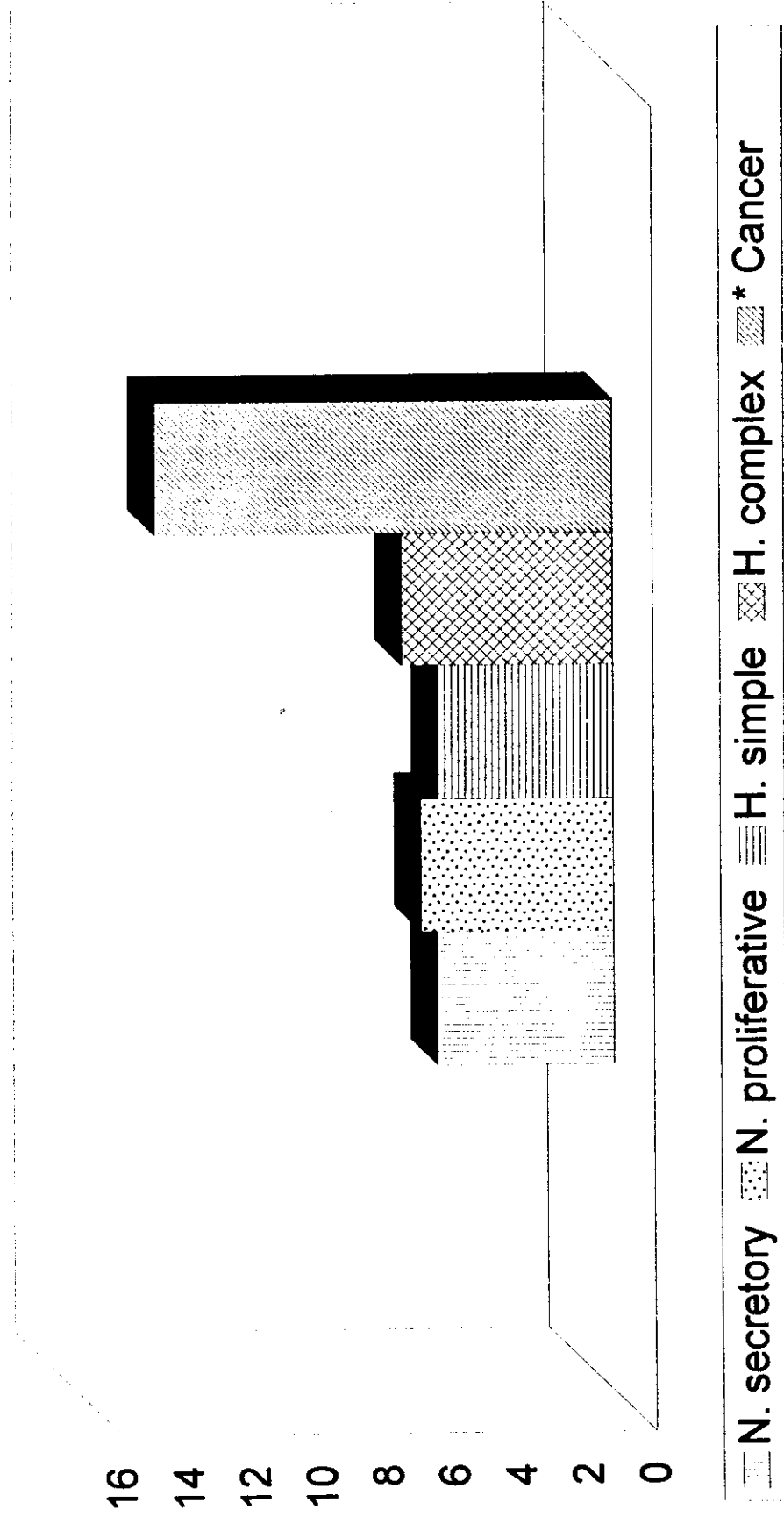
**Comparison of Flow Cytometric S-phase fraction between
the different groups.**



*** Significant difference compared to normal or hyperplasia groups ($P < 0.01$)**

Fig. (5)

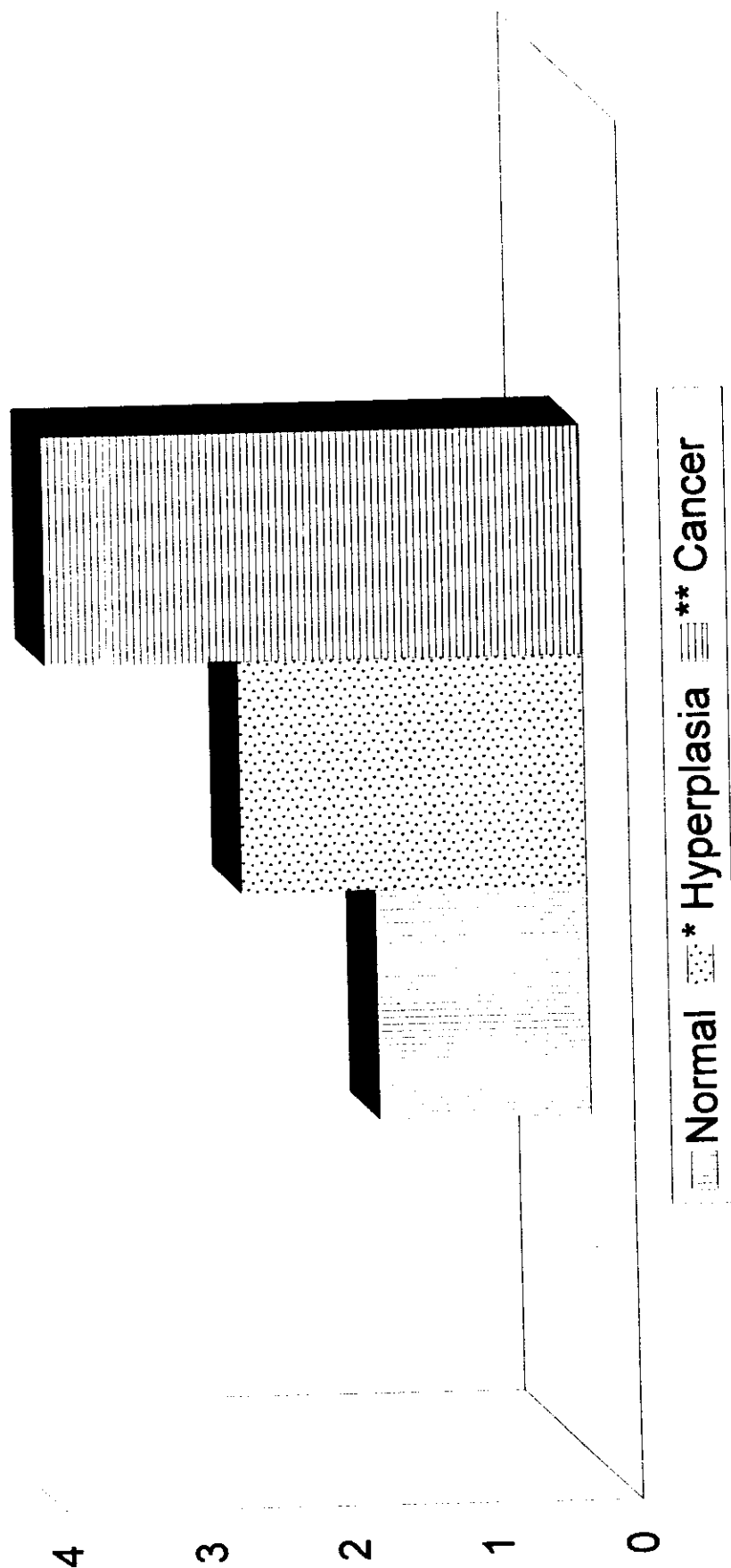
Comparison of Flow Cytometric S-phase fraction between
the different subgroups.



* Significant difference compared to normal (secretory of proliferative) and hyperplasia
(simple or complex) subgroups ($P < 0.01$)

Fig.(6)

**Comparison of expression of *c-erbB-2* Oncoprotein mean value
(HNU/ μ g tissue protein) between the different groups.**

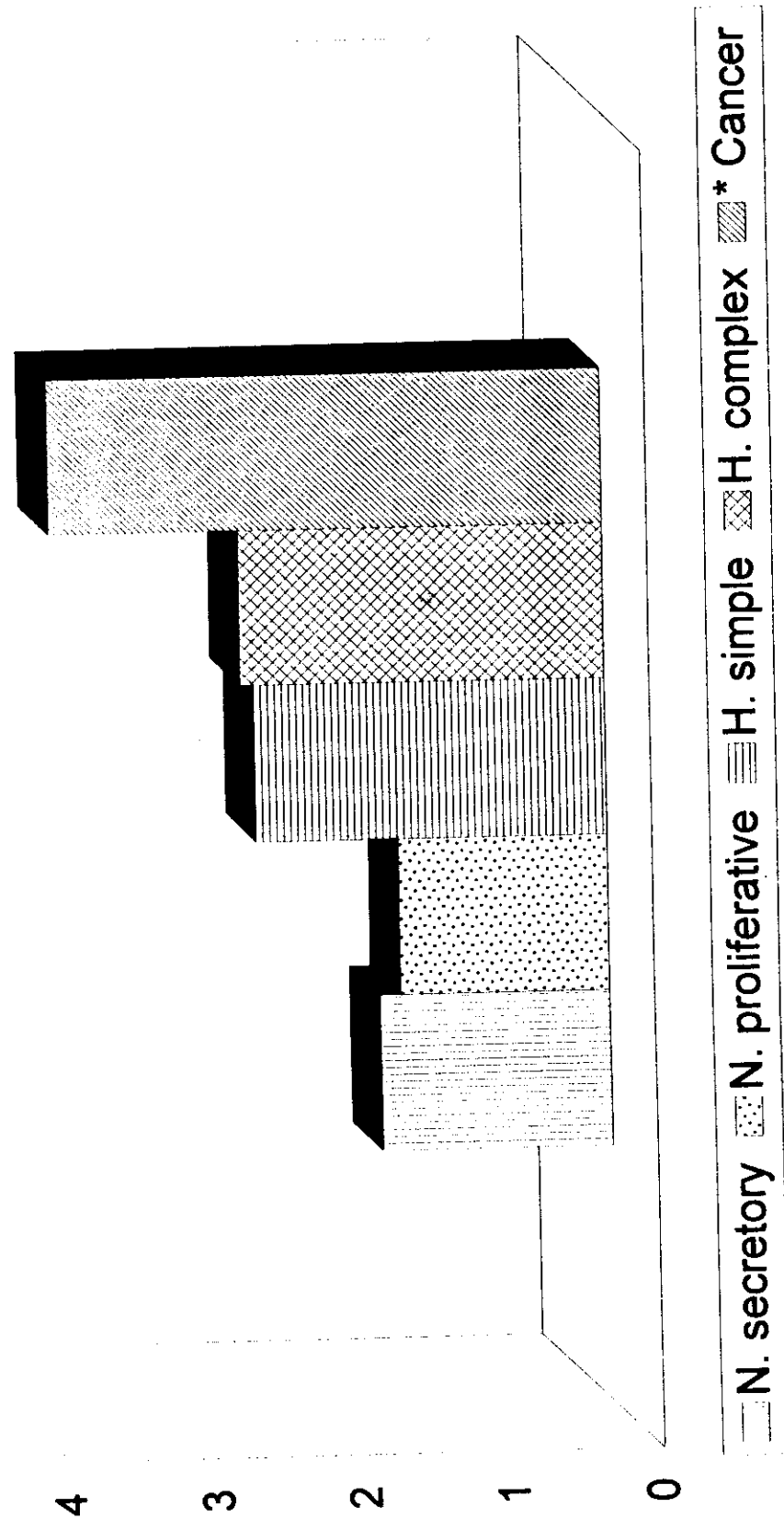


* Significant difference compared to normal ($P < 0.05$)

** Highly significant difference compared to normal ($P < 0.01$)

Fig. (7)

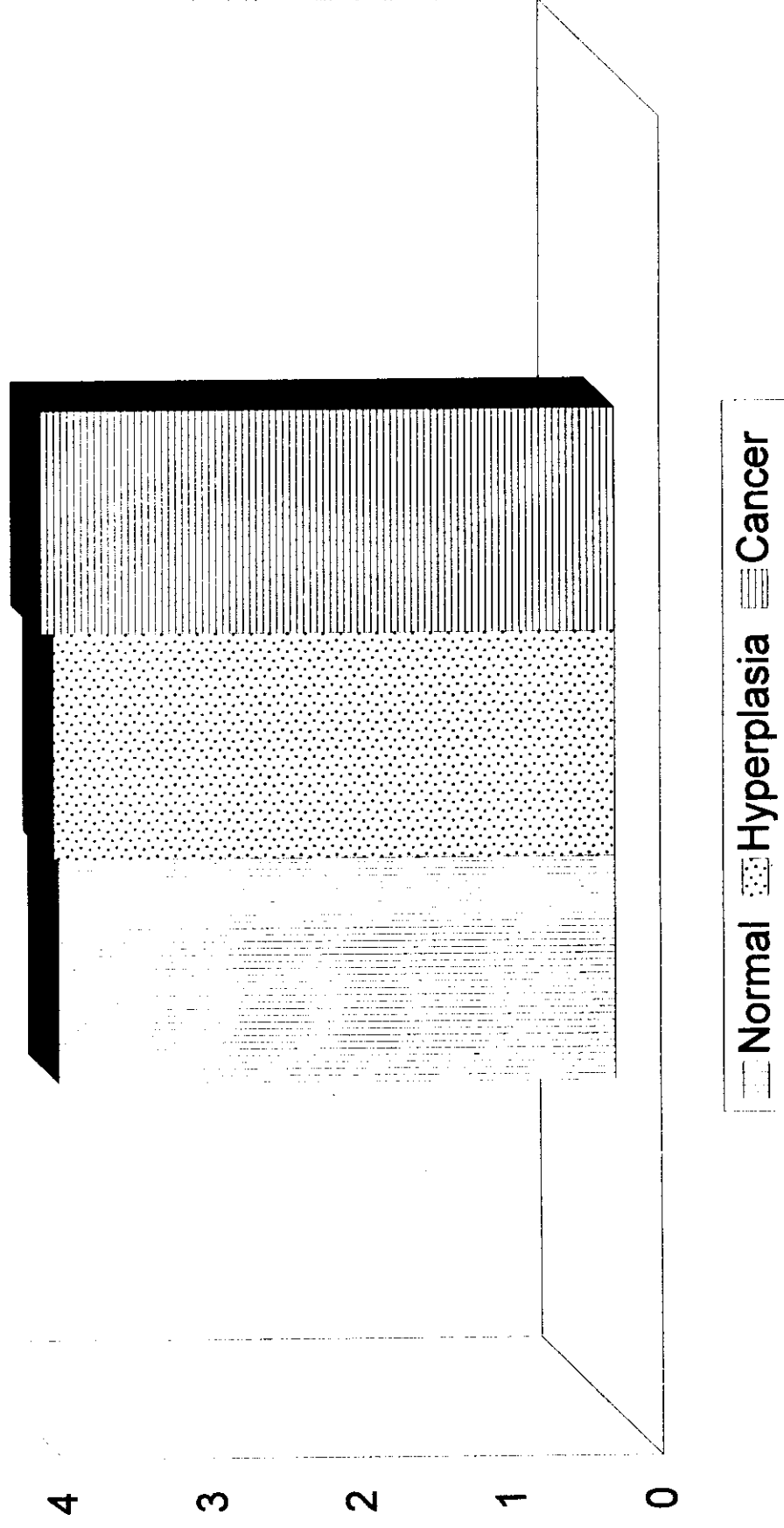
Comparison of expression of *c-erbB-2* Oncoprotein mean value (HNU/ μ g tissue protein) between the different subgroups.



* Significant difference compared to normal ($P < 0.01$)

Fig.(8)

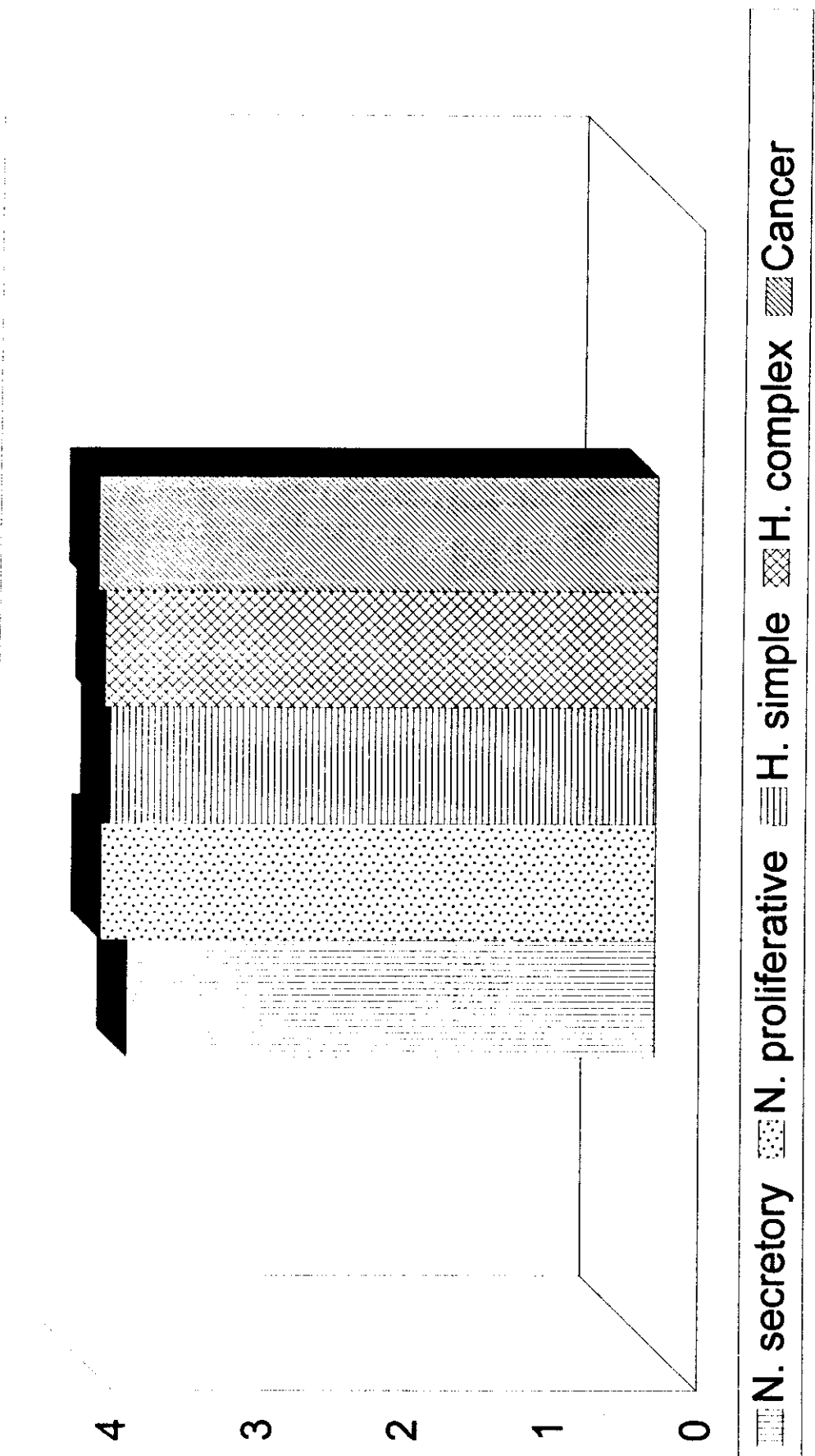
**Comparison of serum CEA mean value (ng/ml)
between the different groups.**



Non significant difference between any groups

Fig. (9)

**Comparison of serum CEA mean value (ng/ml)
between the different subgroups.**



Non significant difference between any subgroup

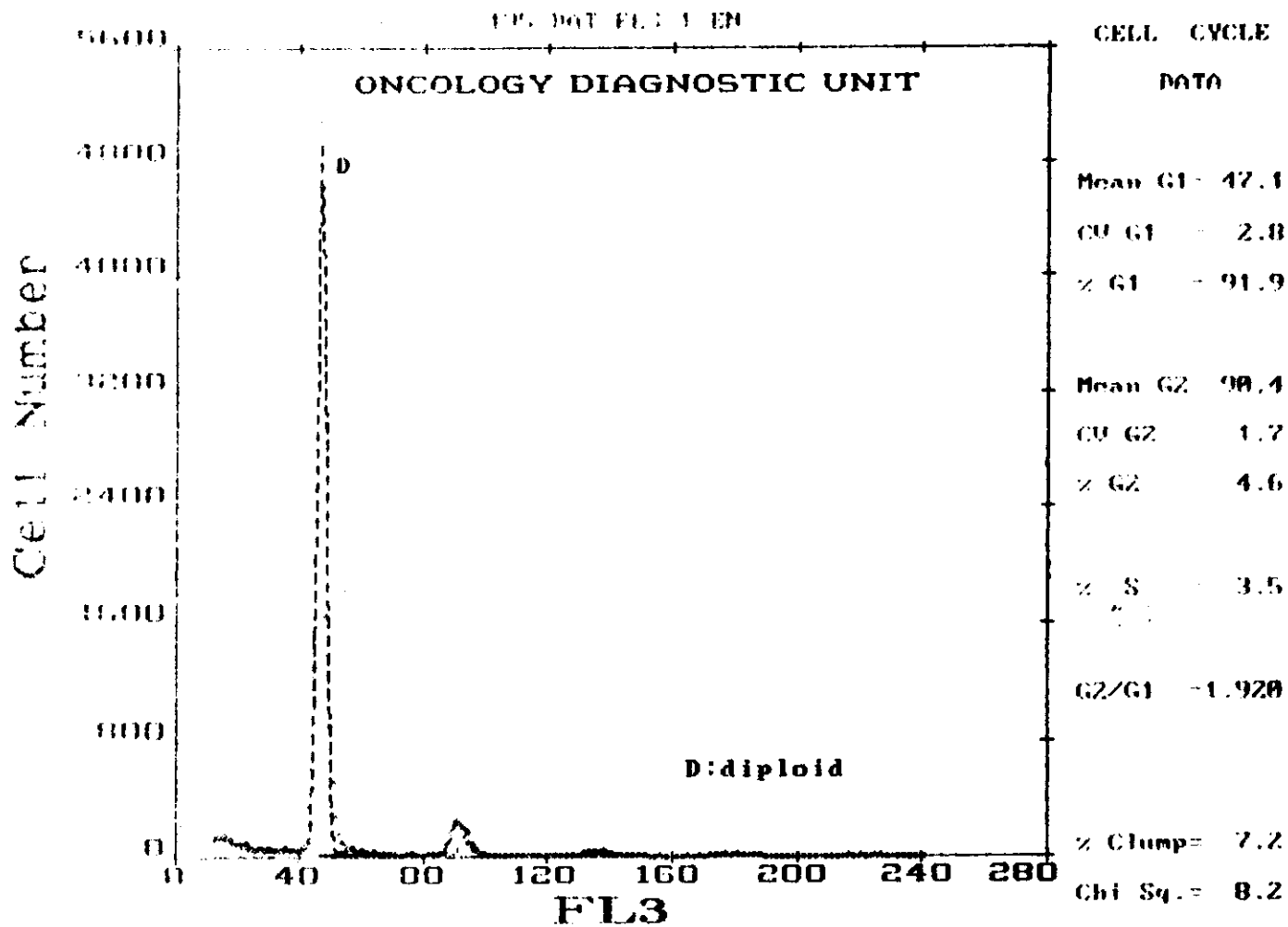


Fig. (10)

Flow Cytometric DNA histogram of Diploid endometrial tissue

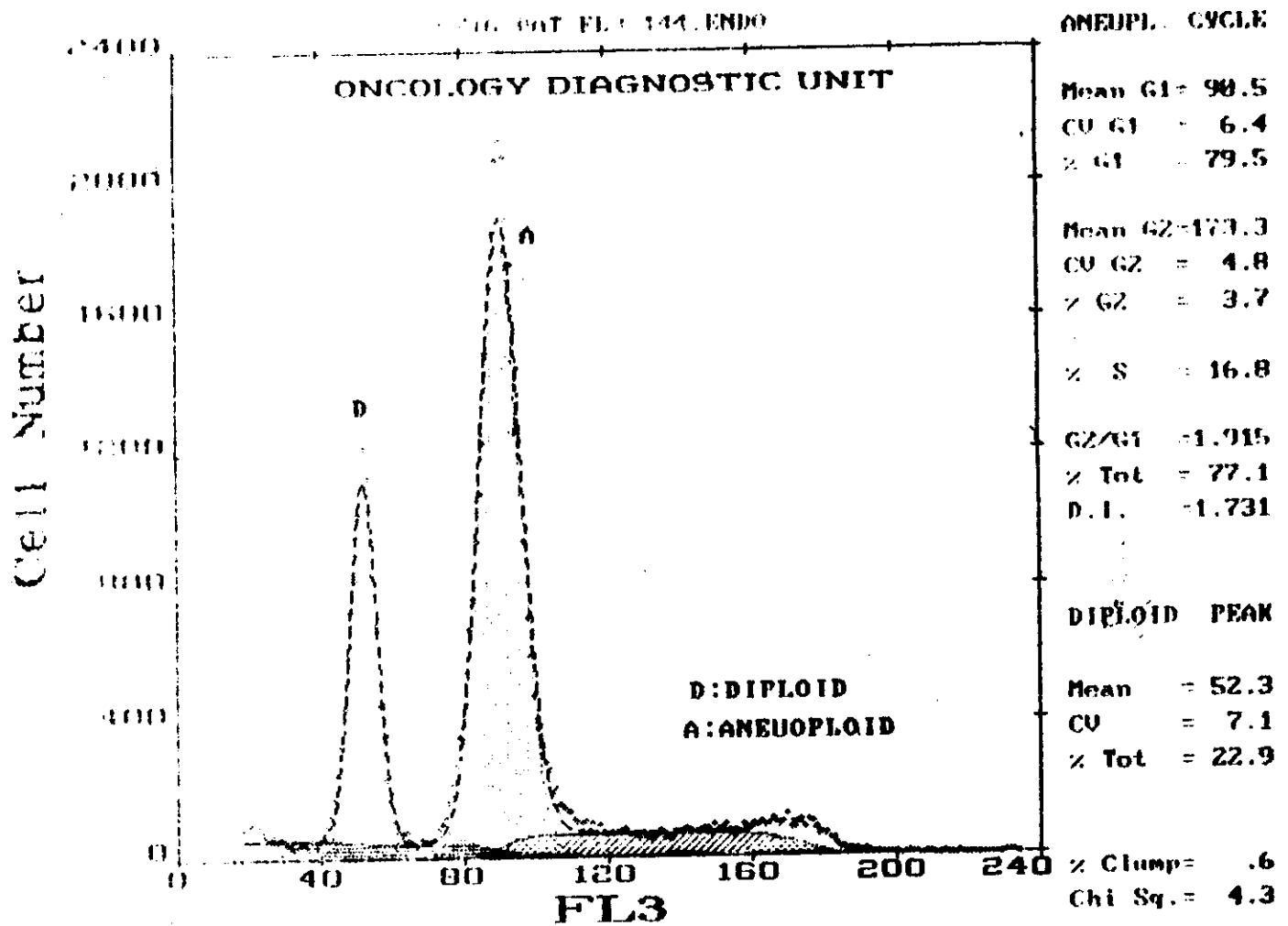


Fig. (11)

Flow Cytometric DNA histogram of Aneuploid endometrial tissue .