

가

## CA 125

. . . . .

= Abstract =

### Effect of Tumor Grade and FIGO Stage on Preoperative Serum CA 125 Level in Epithelial Ovarian Cancer

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The preoperative serum level of tumor marker CA 125 has served as rough orientation in making the distinction between a benign and a malignant adnexal mass or as a reference for monitoring the success of therapy. But there were some reports suggesting that the stage of the disease and tumor grade, which are known to be the independent prognostic factors in ovarian cancer patients, may exert an influence on the preoperative CA 125 level. In this retrospective study we analysed the significance of preoperative serum CA 125 level with respect to tumor grade and tumor stage. Between June, 1989 and January, 1997, 82 patients with epithelial ovarian cancer managed at Asan Medical Center were evaluated, in whom serum level CA 125 were measured preoperatively. Tumor grade bears no meaningful influence on the preoperative CA 125 level, and also the correlation is low and statistically insignificant ( $r=0.12$ ,  $p=0.29$  in all stages;  $r=0.01$ ,  $p=0.97$  in stage I;  $r=-0.09$ ,  $p=0.83$  in stage II;  $r=0.06$ ,  $p=0.72$  in stage III;  $r=0.25$ ,  $p=0.41$  in stage IV). There was no significant effect of FIGO stage on preoperative CA 125 level ( $r=0.21$ ,  $p=0.06$  in all grades;  $r=0.32$ ,  $p=0.10$  in G1;  $r=0.08$ ,  $p=0.74$  in G2;  $r=0.17$ ,  $p=0.30$  in G3). However, we found a significant correlation between FIGO stage and tumor grade ( $r=0.45$ ,  $p<0.01$ ). In conclusion, our data suggests that both tumor grade and FIGO stage have no significant effect on preoperative serum CA 125 level.

Keywords: CA 125, Tumor grade, FIGO stage, Epithelial ovarian cancer

.2022)

2325)

CA 125 가  
가

(coelomic epithelium)

(90%)  
가

1989 6 1997 1

FIGO III IV

가 70%  
가

125 가

82

CA

FIGO

CA 125

가

.1)

30

가

5

35%

.2)

가

가

1.

1989 6 1997 1

CA 125

82

50

. 1981 Bast

CA 125

.34)

(monoclonal)

IgG1 OC  
80%

1%

.57)

.8)

9)

10-12)

CA 125

2. CA 125

CA-125 Centocor (Malvern, PA) im-  
munoradiometric kit

100

$\mu\ell$

CA 125

125I

100 $\mu\ell$

bead

(20 30 )

18 24

3ml 3

1

.13-16)

CA 125

17-19)

.2021)

가

가

8%

3.

82

CA 125  
inter-assay coefficient

(stage), U/ml 114  
U/ml, 2140 U/  
ml (Table 1).  
가 (p=0.06)  
FIGO (p=0.00),  
WHO CA 125  
(P < 0.01).  
82  
44, 17, 21, FIGO  
I 19, II 8, III 42, IV 13 2. CA 125  
grade I 27, grade II  
18 grade III 37  
PC-SAS(version 6.12) program  
Student t test CA 125  
(CA 125 82 가 (G1) 27 (32.9  
, FIGO %, (G2) 18 (22.0  
) Pearson 가 (G3) 37 (45.1%)  
(r) 0.05  
CA 125 (FIGO 27.7U/ml  
) ( : 745.0 U/ml)  
(p < 0.01)  
( : 1641.1 U/ml) (p <  
0.01), CA 125 가 가  
1. CA 125  
(p=0.04) CA 125 가  
(Table 2). CA 125  
CA 125 Pearson r=0.12  
가 (p=0.29).  
CA 125 FIGO CA 125  
CA 125 1543

Table 1. Analysis of preoperative CA 125 with respect to histologic type

Histologic type	No.(%)	CA 125(U/ml)				CA 125 sensitivity(> 35U/ml)	
		Mean	25th percentile	Median	75th percentile	FIGO stage	FIGO stage
Serous	44(53.7)	1543.0	209.0	845.5	1530.5	83.3%	90.9%
mucinous	17(20.7)	114.0	11.0	34.5	46.0	45.5%	47.1%
Endometrioid	7(8.5)	2140.2	44.6	66.0	2597.3	100.0%	100.0%
Other types	14(17.1)	861.9	67.0	333.5	608.0	-	85.7%

: no FIGO stage in other types

Table 2. CA 125 level and the degree of cancer differentiation

Tumor grade	No.(%)	CA 125(U/ml)				CA 125 sensitivity	
		Mean	25th percentile	Median	75th percentile	(> 35U/ml)	Significance
control	50	27.7	9.8	18.0	35.8	26.0%	-
G1	27(32.9)	745.0	33.2	84.0	877.5	69.2%	GαG1, P<0.01
G2	18(22.0)	1641.1	96.0	544.0	1211.0	88.9%	G1:G2, P<0.02
G3	37(45.1)	1263.3	59.5	661.0	1523.5	86.8%	G2:G3, P=0.04

FIGO I , II , III IV 가 (r=0.32, p=0.10 in G1; r=0.08, p=0.74 in G2 ; r=0.17, p=0.30 in G3).

가 (r=0.01, p=0.97 in stage I; r=-0.09, p=0.83 in stage II ; r=0.06, p=0.72 in stage III; r=0.25, p=0.41 in stage IV).

## 4. FIGO

3. CA 125 FIGO

FIGO I II  
16 (59.3%) 가  
(22.2%), - (18.5%)  
82 , FIGO I 가 19  
(23.2%), II 가 8 (9.8%), III 가 42 (51.2%),  
IV 가 13 (15.8%)  
CA 125 FIGO I II  
가 (p<0.01), II III  
가 (p=0.20), III IV  
III CA 125 가  
(p=0.01)(Table 3).  
CA 125 FIGO Pearson  
r=0.21  
(p=0.06).  
CA 125 FIGO

(Table 1).

Pearson

r=0.46

(p&lt;0.01).

Table 4. Distribution of tumor grades according to FIGO stages

+		
G1	16(59.3%)	11(20.0%)
G2	6(22.2%)	12(21.8%)
G3	5(18.5%)	32(58.2%)

Table 3. Analysis of preoperative CA 125 levels with respect to FIGO stage

FIGO stage	No.(%)	CA 125(U/ml)				CA 125 sensitivity	
		Mean	25th percentile	Median	75th percentile	(> 35U/ml)	Significance
	19(23.2)	120.0	10.2	40.3	72.1	63.2%	Gα , P=0.03
	8(9.8)	1937.1	60.9	266.4	1590.2	87.5%	, , P<0.01
	42(51.2)	1523.7	72.9	648.1	1500.4	90.5%	: , P=0.20
	13(15.8)	1161.6	401.1	800.3	1642.3	76.9%	, , P=0.01

CA 125

CA 125 114.0 U/ml, 2140.2 U/ml, CA 125 1543.0 (p < 0.01).

CA 125 27.28, CA 125 FIGO OC 125가

FIGO 가

CA 125 가

CA 125 가

가

CA 125 ,

FIGO , 1

DNA ploidy .13230

CA 125 가

FIGO I CA 125

63.2% , 120.2 U/ml

26% 27.7 U/ml .16

가 가 (p=0.03). 가 CA

가 II , III CA 125 125 가 가

87.5%, 90.5% 가 IV 가 가 CA

가 76.9% II III 125 가 가 CA

CA 125 125 가 가

II 1937.1 U/ml, III 1523.7 U/ml, IV 가

1161.6 U/ml 가

CA 125 가 가 (<35U/ml) 가

가 가 .31,32

가 (II:III, p=0.20). 가

II 8 1 CA 125

가 9000 U/ml 가

, III 42 CA 125 가 9000

U/ml 가 2 CA 125

CA 125 가 4000 U/ml CA

FIGO 125 가

CA 125 .7) CA 125

3 , DNA ploidy, S (S phase fraction)

가

CA 125 .22) , G1,

가 G2 가 CA 125

가 (control: G1, p < 0.01; G1:

- 가 CA 125 -

G2,  $p < 0.01$ ). G3 가

G2 CA 125 가 가

(1641.1 U/ml vs. 1263.3 U/ml,  $p=0.04$ ) G2 18

2 CA 125 가 9000U/ml

1. CA 125 ,

G3 37 CA

125 가 9000 U/ml 1 .

CA 125 , ) 가

( $p < 0.01$ ).

2. CA 125 ,

( $r=0.12$ ,  $p=0.29$ ). CA 125

가 ( $r=0.21$ ,  $p=0.06$ ).

3. 가 가 가

CA 125 가 9000 U/ml 가 1 2

가 ( $r=0.46$ ,  $p=0.00$ ).

FIGO

CA 125

FIGO 가, CA

125 FIGO

가

CA 125 FIGO

가 가 FIGO CA

125

FIGO

가 CA 125

CA 125

1989 6 1997 1

CA 125 82

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