

The Effect of Infection with Papillomavirus on Tumor Markers, CA 125 and CA 15-3 In a Sample of Women Infected with this Virus in Iraq

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ABSTRACT

Background: This study included the relationship of infection with papillomavirus, which causes cervical cancer, with some neoplastic signs CA 125 and CA15-3 that indicate, when they are elevated, the incidence of ovarian cancer and breast cancer. This study was on a group of women in Iraq after confirming their infection with this virus and after conducting clinical examinations. And laboratory for them and make sure that they have cervical cancer.

Methodology: Swabs were taken from women infected with this virus, and after their cervical cancer was verified, a biopsy was taken from the affected area and a histological examination was done to confirm that they had cervical cancer, Blood samples were collected for forty infected women, divided into two parts: 20 women who are still married and 20 divorced. Twenty samples were taken for uninfected women for the purpose of comparison as control.

Result: There were no significant differences for increasing the tumor index CA 125 associated with ovarian cancer, and this Marker that there is no relationship between infection with papillomavirus and ovarian cancer, and the concentration of tumor marker CA 15-3 in married women was 29 and in divorced women 24 compared to control 25 there is no Any significant differences to increase this tumor marker, there is no relationship between infection with papillomavirus and breast cancer.

Keywords: Papillomavirus, Tumor markers, CA 125 and CA 15-3

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INTRODUCTION

Almost all sorts of cervical most cancers are triggered by using contamination with HPV, however cervical most cancers might also take 20 years or extra to enhance after contamination with HPV. HPV contamination and early cervical most cancers do no longer generally purpose substantial symptoms. Vaccination towards HPV is the fine safety towards cervical cancer^(1,2,3) Because cervical most cancers in its early ranges does no longer motive symptoms, it is integral that girls have ordinary screening exams to become aware of any pre-cancerous modifications in the cervix that may also lead to cancer. Current hints advise that girls aged 21 to 29 years bear the Pap check (Pap test) each and every three years.^(4,5,6) Women of 30 to sixty five years of age are cautioned to proceed to bear the Pap check (Pap test) each three years, or each 5 years if they bear the HPV DNA check at the equal time. Women over sixty-five years of age can discontinue the screening if they endure three "Pap" assessments (Pap test) in a row, or two HPV DNA and Pap assessments besides any odd results.^(7,8,9) Genital HPV contamination is unfolding via sex, anal sex, and some other skin-to-skin contact in the genital area. Some instances of HPV contamination that lead to lesions of the mouth and top respiratory tract are unfold via oral sex.^(10,11,12) The Center for Disease Control and Prevention recommends that female and boys a while eleven and 12 be given the HPV vaccine routinely, though it may also be given as early as age 9. It is nice for each female and boys

to be vaccinated earlier than sexual contact and to be uncovered to HPV. Research has proven that receiving the vaccine at a younger age has nothing to do with the early initiation of sexual activity.^(13,14,15) Once anyone is contaminated with HPV, the vaccine may additionally now not be as effective, or it may also now not work at all. Also, the degree of response to the vaccine is higher at youthful a while than at older ages. But if given earlier than a character is infected, the vaccine can stop most instances of cervical cancer.^(16,17)

METHODOLOGY

histopathology test

Swabs were taken from women infected with this virus, and after their cervical cancer was verified, a biopsy was taken from the affected area and a histological examination was done to confirm that they had cervical cancer.

Collect blood samples

Blood samples were collected for forty infected women, divided into two parts: 20 women who are still married and 20 divorced. Twenty samples were taken for uninfected women for the purpose of comparison as control.

Tumor marker test

Use the Menifides device for concentration appreciation of Tumor marker CA125, Ca153.

RESULT AND DISCUSSION

Table 1. Effect of infection with papillomavirus on tumor markers, CA 125 and CA 15-3 In women aged between (20-25)

Descriptive Statistics				
Dependent Variable: concentration				
social status	tumor marker	Mean	Std. Deviation	N
continuing	CA 125	32.30	.949	10
	CA 15-3	29.90	3.814	10
	Total	31.10	2.972	20
divorced	CA 125	23.20	.789	10
	CA 15-3	24.60	4.477	10
	Total	23.90	3.210	20
control	CA 125	22.90	3.604	10
	CA 15-3	22.50	3.719	10
	Total	22.70	3.570	20
Total	CA 125	26.13	4.918	30
	CA 15-3	25.67	5.006	30
	Total	25.90	4.926	60

The CA 125 test may be used to monitor some types of cancers during and after treatment. In some cases, CA 125 may be used to look for early signs of ovarian cancer in people at high risk for the disease, A CA 125 test is accurate enough to be used in ovarian cancer screening in general because the CA 125 level can be increased in many non-cancerous conditions, Many different conditions can cause an increase in CA 125, including normal conditions, such as menstruation, and noncancerous conditions, such as uterine fibroids. Some cancers can also cause an increased CA 125 level, including cancer of the ovary, endometrium, intraperitoneal and fallopian tubes. Table 1 shows the effect of HPV infection on tumor marker levels CA 125

and CA 15-3 in women aged 20-25 years, where the concentration of tumor index CA 125 in women who were still married was 32 and in divorced women 23 compared to control, which had a concentration of 22. There were no significant differences for increasing the tumor index CA 125 associated with ovarian cancer, and this Marker that there is no relationship between infection with papillomavirus and ovarian cancer, and the concentration of tumor marker CA 15-3 in married women was 29 and in divorced women 24 compared to control 25 there is no Any significant differences to increase this tumor marker, there is no relationship between infection with papillomavirus and breast cancer.

Table 2. ANOVA table of effect of infection with papillomavirus on tumor markers, CA 125 and CA 15-3 In women aged between (20-25)

Tests of Between-Subjects Effects					
Dependent Variable: concentration					
Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	865.000 ^a	5	173.000	16.494	.000
Intercept	40248.600	1	40248.600	3837.261	.000
status	825.600	2	412.800	39.356	.000
marker	3.267	1	3.267	.311	.579
status * marker	36.133	2	18.067	1.722	.188
Error	566.400	54	10.489		
Total	41680.000	60			
Corrected Total	1431.400	59			

Table 2 variance analysis of the effect of infection with papillomavirus on the neoplastic markers CA 125 and CA 15-3 for women aged between 20-25, where the study showed that there were no significant differences for the increase in neoplastic signs whose levels were higher than ovarian cancer for CA 125 and breast cancer for CA15-3, meaning there is no relationship between infection with papillomavirus and ovarian and breast cancer.

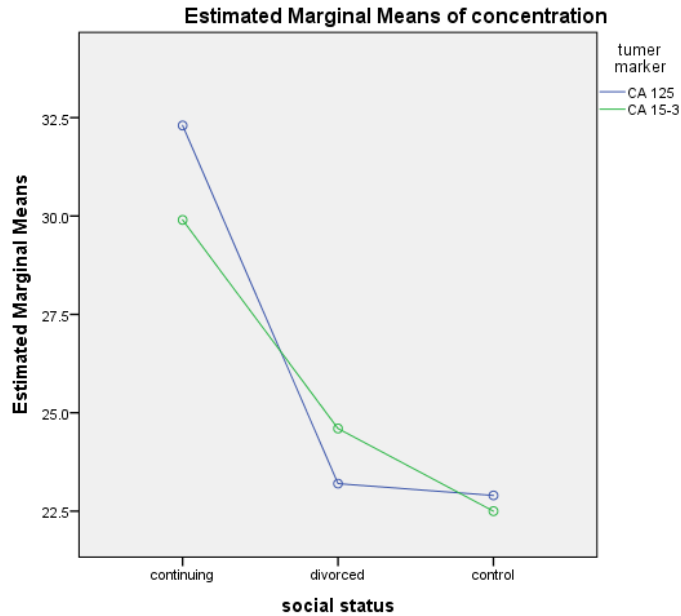


Figure 1 effect of infection with papillomavirus on tumor markers, CA 125 and CA 15-3 In women aged between (20-25)

Table 3. effect of infection with papillomavirus on tumor markers, CA 125 and CA 15-3 In women aged between (25-45)

Descriptive Statistics				
Dependent Variable: concentration				
social status	tumer marker	Mean	Std. Deviation	N
continuing	CA 125	26.90	1.663	10
	CA 15-3	23.30	2.003	10
	Total	25.10	2.573	20
divorced	CA 125	22.50	1.716	10
	CA 15-3	21.60	.966	10
	Total	22.05	1.432	20
control	CA 125	14.70	2.003	10
	CA 15-3	14.40	2.011	10
	Total	14.55	1.959	20
Total	CA 125	21.37	5.417	30
	CA 15-3	19.77	4.264	30
	Total	20.57	4.900	60

CA15-3 is a high-molecular-weight glycoprotein produced by the gene (MUC1 gene) and is found in many special tissues in the body, and the gene (MUC1 gene) has many different sugar chains that are named antigens. Mucin-like antigens, one of which is the carbohydrate antigen 15-3, which appears in the blood circulation in the event of a malignant tumor, this antigen is seen in 80% of patients with malignant breast cancer with metastases as it is seen in 36% of cases Relapse after treatment. It also rises in 50% of ovarian carcinoma patients, but it is not used routinely to diagnose ovarian cancer or to monitor treatment, but CA125 is preferred, When the (CA 15-3) is elevated, this is associated with a worse prognosis compared to patients with a lower concentration of CA 15-3. When the concentration is

higher than (> 40 U / mL) prior to surgery, it indicates the tumor is of a large size and a higher grade. But after surgery, when the concentration is higher than (> 86 U / mL), this indicates the presence of tumor metastases, but normal values at the same time cannot rule out the presence of metastases. Neoplastic. A transient rise may be seen in the first weeks of treatment and the interpretation of the result should not be confused with treatment failure. It should be noted that it is not useful to rely on a one-time measurement in evaluating the clinical situation, and it is better to conduct a series of tests, as the difference of more than 25% in the levels of the analysis, whether in rise or fall, has its significance in response to treatment or relapse. Table 3 shows the effect of HPV infection on tumor marker levels CA 125

and CA 15-3 in women aged 25-45 years, where the concentration of tumor index CA 125 in women who were still married was 26 and in divorced women 22 compared to control, which had a concentration of 21. There were no significant differences for increasing the tumor index CA 125 associated with ovarian cancer, and this Marker that there is no relationship between infection with

papillomavirus and ovarian cancer, and the concentration of tumor marker CA 15-3 in married women was 23 and in divorced women 21 compared to control 14 there is no Any significant differences to increase this tumor marker, there is no relationship between infection with papillomavirus and breast cancer.

Table 4. ANOVA table of effect of infection with papillomavirus on tumor markers, CA 125 and CA 15-3 In women aged between (25-45)

Tests of Between-Subjects Effects					
Dependent Variable: concentration					
Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	1248.333 ^a	5	249.667	80.059	.000
Intercept	25379.267	1	25379.267	8138.245	.000
status	1179.033	2	589.517	189.037	.000
marker	38.400	1	38.400	12.314	.001
status * marker	30.900	2	15.450	4.954	.011
Error	168.400	54	3.119		
Total	26796.000	60			
Corrected Total	1416.733	59			

a. R Squared = .881 (Adjusted R Squared = .870)

Table 4 Analysis of variance of the effect of infection with papillomavirus on the tumor markers CA 125 and CA 15-3, where in those aged between 25-45 years, it was found that there were significant differences in the levels of

both CA125 and CA 15-3 between the treatments and control, but it was within the normal level They have any less than 35, and this indicates that HPV infection is not associated with ovarian and breast cancer.

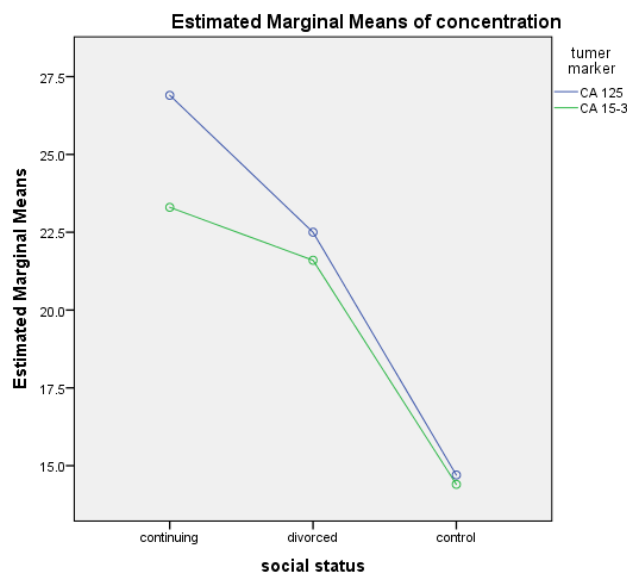


Figure 2. effect of infection with papillomavirus on tumor markers, CA 125 and CA 15-3 In women aged between (25-45)

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