TO STUDY THE ASSOCIATION OF SERUM LEVELS OF CA-125 AND IL-6 WITH EXTENT OF THE DISEASE AND POOR CLINICAL OUTCOMES

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Abstract

Background & Method: The present study has been conducted in pathology department study is based on serological correlation of CA -125 and Interleukin-6 in patient with ovarian mass lesion attending. Patient's details regarding their inpatient number, age, parity, marital life, family history, menstrual status, clinical history including presenting symptoms and signs, radiological data whenever possible will be noted.

Result: Among 40 neoplastic lesions, right sided cases found in 20 (50%), and left sided lesion found in 12 cases (30%). 08 cases (20%) of lesions are observed to be bilateral. There is significant correlation (p-value=.000) in rise of levels of CA-125 and Interleukin-6 levels in patients with benign and malignant ovarian lesion.

Conclusion: Our study of 40 ovarian lesions at a Index Medical College Hospital and Research Centre, Indore aimed to find out the serological correlation of CA 125 and Intetleukin-6 as diagnostic marker in patient with ovarian mass lesion and it's histopathological correlation. The results of present study are comparable to other series of studies regarding levels of these serological markers with histopathological type gross features and microscopy.

Keywords: Serum Levels, CA-125, IL-6 & Clinical & Outcome.

Introduction

Early Detection Biomarkers for Ovarian Cancer CA 125 (Cancer Antigen 125). The widely used, classic, "gold standard" tumor biomarker, CA 125, a high molecular weight glycoprotein, has a sensitivity between 50% and 60% with a specificity of 90% in early stage postmenopausal women, and expression of CA-125 is enhanced in 90% of patients with epithelial ovarian cancer above normal levels.^[1-4] CA-125 is normally expressed in tissues derived from Mullerian and coelomic epithelia and is the only biomarker currently widely used in cancer therapy.^[5] It was suggested that CA-125 can potentially be used for early detection of ovarian cancer^[6] since increased levels of CA-125 may precede clinical detection by more than a year. In addition, analysis of CA-125 levels has been useful in monitoring chemotherapy responses, distinguishing malignant pelvic masses from benign masses, detection of recurrence, and improving clinical trial design. A decline in expression of CA-125 is considered a favorable prognostic occurrence during chemotherapy, and serial measurement of CA-125 is used as an indicator of therapeutic outcomes and for

assessing stabilization of the disease. However, several factors undermine the significance of CA-125 as an early detection biomarker. However, CA-125 has been used effectively in concert with other markers to increase its sensitivity as an early detection biomarker.

It serves as an ovarian cancer biomarker, especially for monitoring of ovarian cancer therapy and early recurrences^[7]. CA-125 levels have been found to be significantly higher in women with moderate or severe endometriosis. It was reported that preoperative serum CA-125 level could be used as an important predictor for patients with endometrial conditions. Most common benign gynecological conditions associated with high serum CA-125 are ovarian endometrioma and deeply infiltrating endometriosis^[8].

Material & Method

The present study has been conducted in pathology department study is based on serological correlation of CA -125 and Interleukin-6 in patient with ovarian mass lesion attending.

Period of study: The study design is prospective and spans duration from July 2017 to June 2018.

Case selection: The cases of pelvic mass lesion probable of ovarian origin attending at Index Medical College Hospital & Research Centre, Indore.

Inclusion criteria

1. Age 11 to 70 years.
2. Patients with pelvic mass lesions of probable ovarian origin.

Exclusion criteria

1. Patient with pelvic mass lesion of other than ovarian origin.

2. Already diagnosed cases of ovarian diseases.

History & Examination: Patient's details regarding their inpatient number, age, parity, marital life, family history, menstrual status, clinical history including presenting symptoms and signs, radiological data whenever possible will be noted.

Ethical consideration: Prior to the sampling, all the cases were explained about the procedure to be done in detail and a written consent has been taken. In case of minor, informed consent will be taken from the guardian. Patient identity will be kept confidential.

Results

TABLE 1: BASED ON DEGREE OF DIFFERENTIATION OF MALINANT LESION

Variables	Serum levels of CA -125		Serum levels of IL-6	
	<35 U/ml	>35 U/ml	< (5-15) pg/ml	>(5-15) pg/ml
Well differentiated	02	01	00	03
Moderately differentiated	00	02	00	02
Poorly differentiated	00	10	00	10

TABLE 2: DISTRIBUTION OF LATERALITY IN OVARIAN NEOPLASM

HISTOLOGICAL TYPE	LEFT	RIGHT	BILATERAL	TOTAL
Benign	05	11	06	22
Borderline	02	01	00	03
Malignant	05	08	02	15
Total	12	20	08	40
PERCENTAGE	30 %	50%	20%	100%

Among 40 neoplastic lesions, right sided cases found in 20 (50%), and left sided lesion found in 12 cases (30%). 08 cases (20%) of lesions are observed to be bilateral. There is significant correlation (p-value=.000) in rise of levels of CA-125 and Interleukin-6 levels in patients with benign and malignant ovarian lesion.

Discussion

Kolwijcket al. describe that the pre-operative serum CA125 levels are significantly higher in advanced lesions and in serous tumors.^[10]

Osman et al. report that postoperative serum CA125 levels are associated with stage, histologic grade and survival in cases of ovarian carcinoma.^[11]

Bereket al.^[12] recently published data from 36 patients with epithelial ovarian cancer and concluded that IL-6 may be a useful tumor marker in this disease, because it correlated with tumor burden, clinical disease status, and survival time.

Zurawski VR Jr^[13] et al in 1988 studied the sensitivity of the CA 125 immunoradiometric assay for occult ovarian neoplasia, serum CA 125 levels were retrospectively determined "blind" in specimens

collected from 105 women who subsequently developed ovarian neoplasia, and from 323 matched controls. The distribution of CA 125 levels was very different between the case and control populations ($p = 0.0001$) over the entire collection-to-diagnosis interval (range 1-143 months). Median CA 125 levels for all cases, and for those collected more than 24, 36 or even 60 months prior to diagnosis, were always 18 U/ml or greater, compared with a median of 10.9 U/ml for controls. Half of the cases collected within the 18 months preceding diagnosis had CA 125 levels of more than 30 U/ml and one-third had levels greater than 65 U/ml. About one-fourth of those collected prior to 60 months before diagnosis had levels above 30 U/ml. In contrast, approximately 7% and 0.9% of controls had levels in excess of 30 or 65 U/ml, respectively. Elevations occurred in cases eventually diagnosed with localized or advanced cancer, and with borderline or obviously malignant disease.

Conclusion

Our study of 40 ovarian lesions aimed to find out the serological correlation of CA 125 and Intetleukin-6 as diagnostic marker in patient with ovarian mass lesion and it's histopathological correlation. The results of present study are comparable to other series of studies regarding levels of these serological markers with histopathological type gross features and microscopy. There is significant correlation (p -value=.000) in rise of levels of CA-125 and Interleukin-6 levels in patients with benign and malignant ovarian lesion.

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