



# MEAN OF CA 125 IN MAKING THERAPY DECISION IN ADNEXAL INFLAMMATORY TUMORS

BRANKA NIKOLIĆ\*, ANA MITROVIĆ, JELENA LAZIĆ

University Clinic of Gynecology and Obstetrics "Narodni front", Narodni front 62, Faculty of Medicine, University of Belgrade, 11000 Belgrade, Serbia and Montenegro

\* Corresponding author

## ABSTRACT

Laboratory findings such as white blood count and sedimentation rate are of relative value in inflammations of the upper genital tract and adnexal inflammatory tumors. Antibiotics are administered in all cases according to the protocol but some of them need operative treatment also. Inflammatory tumors can develop in endometriotic and even in cancer adnexal masses. CA 125 is elevated in great number of patients with advanced ovarian cancer. It can also be elevated in endometriosis, inflammations and in nongynecological malignancies. Adnexal inflammatory tumor was confirmed in 57 patients. Laboratory findings: white blood count and sedimentation rate were in normal levels in 17 patients. CA 125 was elevated in 27 patients. 49 patients were operated and CA 125 decreased in the first 5 days after the operation. Only 8 patients without CA 125 elevation were successfully treated by means of antibiotics. Even there is no need for routine examining of serum CA 125 in adnexal inflammatory tumors it can be examined in cases with suspected Doppler ultrasonographic findings or unclear clinical findings. Endometriosis brings some risk of malignancy. Inflammatory tumor can develop in endometriotic tumor as well as in necrotic malignant ovary tissue. These could be reasons for making decision to do the operation in cases with inflammatory tumor followed with increased CA 125, histological assessment and serious interpretation of final results.

KEY WORDS: Adnexal inflammatory tumor, CA 125, Resistance Index, Transvaginal Doppler ultrasonography, endometriosis

## INTRODUCTION

Endothelial cells of most pelvic organs secrete high molecular glycoprotein CA 125. This tumor marker is not specific for ovarian cancer but it is elevated (above 35 u/ml) in almost 90% of patients with advanced ovarian cancer stage II, III and IV. It is also elevated in more than 50% of patients with epithelial ovarian cancer stage I. CA 125 can be elevated in patients with nongynecological malignancies as well as in patients with endometriosis and inflammations of the upper genital tract (1,2,3,4). Adnexal inflammatory tumor usually develops in patients with sexually transmitted diseases and not treated bacterial vaginosis. Pelvic or abdominal pain, temperature over 39°C, nausea or vomiting are predominant symptoms of adnexal inflammatory tumor. Some cases of adnexal inflammatory tumors are not followed with characteristic clinical findings or elevated white blood count and sedimentation rate. Unusual ultrasonographic findings with low Resistance index value and hypervascularisation also needs additional examination including serum CA 125. CA 125 values could be of a great help in making a decision between conservative and operative treatment in those unclear cases even when there is a good response on antibiotic treatment. Antibiotics are administered in all patients with adnexal inflammatory tumor according to Regimen A or alternative regimen when necessary. Some adnexal inflammatory tumors can be clinically or ultrasonographically suspected on ovarian malignancy. The existence of malignancy in endometriosis or developing inflammatory adnexal tumor in necrotic malignant tissue needs further examinations such as measuring serum CA 125. This is also suggested in all patients with hereditary ovarian malignancy and those with adnexal tumor suspected on ovarian malignancy. Reducing risk factors results in decreasing risk of ovarian malignancy (4,5,6,7). There are no medical or economic arguments for examining serum CA 125 in all patients with adnexal inflammatory tumor.

## MATERIALS AND METHODS

Fifty-seven women were hospitalised in our Department during six months period because of suspected adnexal inflammatory tumor. All patients were clinically and laboratory examined and started with antibiotic therapy according to the protocol in the first day of hospitalisation. Transvaginal Doppler ultrasonography was done in all patients. We examined tumor morphology and measure Resistance Index (RI) values in suspected fields with hypervascularisation. In cases with suspected ultrasono-

graphic findings, dominant hypervascularisation and/or RI lower than 0,5 we use to measure serum CA 125. Resistance Index lower than 0,5 usually follows neovascularisation in malignancy (3,6,7). RI values above 0,5 are most common with inflammation and the compression of oedematous tissue on vessel wall. Initial CA 125 was measured in all 57 cases. Serial CA 125 levels were controlled in all 27 with initial levels higher than 35u/ml. Changes in CA 125 values were evaluated in checking the efficacy of chosen therapy. Decision for operative treatment was made in forty-nine patients where antibiotics were administered at the beginning of treatment. In 22 patients serial examination of CA 125 was not done because of normal initial values. Antibiotics were the only treatment choice in eight patients with initial CA 125 lower than 35u/ml with good response on chosen treatment. Average duration of hospitalisation was 9 days. White blood count and sedimentation rate was done 2-3 times during the hospitalisation.

## RESULTS

All patients were hospitalised because of unilateral or bilateral adnexal inflammatory tumor. Only 9 patients had intrauterine device and it was extracted. Patients were aged 23-49. The specificity of this small study was that we used CA 125 as diagnostic test in all patients with adnexal inflammatory tumor and evaluated it with other results to make a decision of the best method of treatment. CA 125 was measured in the first day of hospitalisation and serial examination was done in all patients with elevated initial values until fall under 35u/ml. Thirty patients (52,63%) had normal initial levels of CA 125 (5,20-34,45u/ml). CA 125 was elevated in 27 (55,1%) patients and initial values were from 38,84u/ml-794u/ml. Laboratory findings found white blood count between 11,5<sup>o</sup>/l-23,8<sup>o</sup>/l and sedimentation rate of 65-120 in all 27 patients with elevated initial CA 125 and in 13 patients with normal initial values. Patient with white blood count of 24<sup>o</sup>/l and sedimentation rate of 96 had normal initial CA 125 (24,14u/ml). Eight patients that were treated only by mean of antibiotics had normal initial CA 125, white blood count between 7,0<sup>o</sup>/l-and 16,2<sup>o</sup>/l and sedimentation rate was 28-94. Results of treatment were controlled throughout laboratory findings including CA 125 in all 27 patients with elevated initial values. Chosen therapy in this group of patients was operative treatment including antibiotics according to regimen A (cephalosporine, aminoglycoside, metronidazole). Histology assessment was done and ovarian malignancy was not confirmed in 49 patients.

CA 125 in patient with initial level of 794,7u/l showed decreasing rate (287,47u/l) on the 3<sup>rd</sup> day after the operation. Hystological assesment confirmed endometriosis and inflammation in this case. There was no need to repeat CA 125 in 30 patients with normal initial values. In 22 patients from this group inflammation was confirmed hystologically. CA 125 was not repeated in eight patients that were treated by mean of antibiotics ( regimen A) because of normal initial levels of this tumor marker. In the majority of instancies transvaginal Doppler ultrasonographical findings were characteristic for adnexal inflammatory tumor and Resistance index values in those 57 patients were 0,539-0,681. Significant hypervascularisation was seen in 4 patients but RI lower than 0,5 was not measured. Those transvaginal Doppler ultrasonographic findings are common with inflammation. Final decision between conservative and operative treatment was given according to clinical findings of developing inflammation, paralytic ileus, peritonitis and cases with increasing CA 125. Hysterectomy with bilateral adnexectomy was done in 12 patients according to medical indications and patients age. Unilateral adnexectomy was done in 37 patients. Inflammation was hystologically confirmed in all 49 patients where operation was done. Seven (14,28%) patients from this group had hystological confirmation of endometriosis common with inflammation.

## DISCUSSION

This presented study demonstrates that CA 125 could be helpful in some cases of adnexal inflammatory tumors without clear clinical or ultrasonographic picture when we have to make a decision between conservative or operative treatment. Measuring serum CA 125 we can not detect risk patients in this group because this marker is elevated in genital and nongenital inflammations and some nongynecological malignancies. Identification of hereditary or other risk of malignancy (changes in tumor morphology, neoangiogenesis-RI lower than 0,5, hypervascularisation) in patients with adnexal inflammatory tumor needs serum CA 125 examining and multidisciplinary approach in results evaluation. There is no medi-

cal or economic justification for routine examination of CA 125 in patient with adnexal inflammatory tumor. Our study did not show any significant difference in making decision for operative treatment in this group of patients with evaluated CA 125 between patients with adnexal inflammatory tumor treated in our Department where CA 125 was not routinely measured and evaluated. During this six months period patients with adnexal inflammatory tumor where antibiotics were administrated were operated because of inflammatory process progression or developing peritonitis or paralytic ileus. No one patient was operated only because of elevated initial CA 125. Endometriosis is common with some risk of malignancy and needs additional investigations. Adnexal inflammatory tumor can develop in endometriotic tissue or in necrotic malignant tissue. Those are reasons to be cautious and to make a serious evaluation of all results in those patients. This could help in decreasing risk of overlooking ovarian malignancy. Increased CA 125 could be advantage in earlier treatment making decision which also could have an impact on with duration of hospitalisation and the cost benefit. Patient with highest initial CA 125 level of 794,7u/l where antibiotics (regimen A) administrated was operated on 2<sup>nd</sup> day of hospitalisation because of developed paralytic ileus. Unilateral adnexectomy was done and endometriosis common with inflammation was hystologically confirmed. CA 125 showed decreasing rate 3 days after the operation. In a group of patients with elevated CA 125 inflammation as the only diagnose (pyosalpinx) was confirmed in only one patient with initial level of 405,7u/l. CA 125 decreased 18 days after the operation to level lower than 35u/l. Including CA 125 in diagnostic procedure in examining patients with adnexal inflammatory tumor and comparing the results of chosen treatment with results in previous period we did not found significant differences in making therapy decision between conservative and operative treatment. Including serum CA 125 measuring we found that duration of hospitalisation was 4 days less than average. This could be explain as a period of antibiotic treatment when alternative antibiotic regimen was administrated according to cervical culture and making final decision for operative treatment.

## CONCLUSION

On the basis of the data, even if ultrasonographic picture is not clear for inflammatory tumor, elevated CA 125 does not mean that there could be a developing malignancy in changed tissue. Adnexal inflammatory tumor is usually followed with elevated CA 125 but it is not a main cause for therapy making decision. It is suggested that all those patients should undergo all routine diagnostic investigation and laboratory examinations before making the final decision of way of treatment. There are no significant changes in number of operative treatment in this group of patient where CA 125 was routinely examined and standard procedure in therapy making decision in patients with adnexal inflammatory tumor.

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