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Original Research Paper

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ELEVATED SERUM CANCER ANTIGEN 125 LEVELS IN PERITONEAL TUBERCULOSIS.

Dr. G. Sonika Sharma Tutor, Department of Biochemistry, Meenakshi Medical College Hospital &Research Institute, Kanchipuram, Tamil Nadu, India.

Dr. Ursula Sampson* Professor, Department of Biochemistry, Meenakshi Medical College Hospital & Research Institute, Kanchipuram, Tamil Nadu, India*Corresponding Author

Dr.J.SivaKumar Assistant Professor, Department of Biochemistry, Meenakshi Medical College Hospital &Research Institute, Kanchipuram, Tamil Nadu, India.

ABSTRACT A 30 yrs, female presented with complaints of abdominal distention, nausea, vomiting, breathlessness on exertion for 3 days. All routine investigations like complete haemogram, RFT, LFT, Lipid profile, urine analysis along with CECT abdomen and ascitic fluid analysis were done. HbsAg was negative. CECT abdomen findings showed hepatosplenomegaly, cholelithiasis, adult polycystic kidneys, moderate to massive ascites, omental and peritoneal thickening. Serum CA 125 was 139 U/ml. USG report showed fibroid uterus with gross ascites. Ascitic fluid analysis showed elevated protein. AFB was negative and there was no induration in Mantoux test. Ovarian malignancy was ruled out on the basis of USG report.ATT was started empirically and the level of CA125 decreased to 45 U/ml after one month of treatment.CA-125 levels can be evaluated to rule out peritoneal tuberculosis Monitoring of response to ATT was done by using CA-125 levels.

KEYWORDS : CA-125, ASCITES, ABDOMINAL TUBERCULOSIS

INTRODUCTION

CA 125 is an antigenic determinant on a high–molecular-weight glycoprotein recognized by a monoclonal antibody (OC 125). The full-length CA 125 glycoprotein contains more than 11,000 amino acids and is now identified as a new member of the protein family of mucins.The precise function of the antigenic determinant is unknown but can be found in both benign and malignant tissue.CA 125 is expressed by more than 80% of nonmucinous epithelial ovarian carcinomas and is found in most carcinomas of Müllerian origin, including fallopian tube and primary serous peritoneal carcinoma.The first-generation immunoassay for CA 125 was commercialized in 1983 (CA-125 I) and used the OC 125 antibody for both capture and detection. In 1991, a second-generation assay was developed (CA-125 II), using M11 mouse monoclonal antibody as capture and OC 125 as a tracer.It has a Half life of 4.8 days.

CASE REPORT INFORMATION

A 30 yrs old female presented on 2.9.17 with complaints of abdominal distention, nausea, vomiting, breathlessness on exertion for 3 days. History of loss of appettite,loss of weight present.

No history of hematemesis,malena,constipation.No past history of HTN,DM, or any chronic illness.

INVESTIGATIONS AND TREATMENT:

All routine investigations were done . Complete haemogram-Hb – 8.8 g/dl,PCV – 30% ,RBC – 4.10 mil/mm^3,MCV- 72 fl,MCH- 22 pg,TC-4500 cells/mm^3,DC – $P7_3$ L_{18} M_7 E_3,Platelet count- 3.22 X103/mm^3,ESR – 54mm/hr,RBS – 93mg/dl, RFT-Urea – 18 mg/dl,Creatinine – 0.8 mg/dl,Ca -8.3 mg/dl,P- 3mg/dl,LFT – normal,Lipid profile –normal ,Urine routine – albumin,glucose : nil, pus cells: 6-8,HbsAg- negative.

Ultrasound report showed-Cholelithiasis,B/L renal cortical cyst,Splenomegaly, Rt ovarian cyst with Gross ascites.

CECT abdomen: impression – Hepatosplenomegaly , cholelithiasis,adult polycystic kidneys , moderate to massive ascites,omental and peritoneal thickening.

Ascitic fluid analysis -Glucose -94mg/dl,Protein -5.3g/dl, albumin -3.2g/dl,LDH- 274 IU/L,ADA- 34.3 U/L,Gram stain – few pus cells,AFB-negative.
Mantoux test – no induration.

- CA125 – 139 U/ml (Ref:0-35U/ml) ,(CLIA) in investigations and treatment.

The patient was diagnosed with Peritonial tuberculosis with Adult polycystic kidney .

ATT was started empirically. The level of CA125 decreased to 45 U/ml after one month of treatment

DISCUSSION

Common causes of elevated CA-125 are as follows-
Endometriosis,Liver cirrhosis,Normal menstruation,Pelvic inflammatory disease,Uterine fibroids,Ovarian cancer or cancer of the fallopian tubes or endometrium, Cancer of the pancreas, stomach, esophagus, liver, breast, colon, or lung.Cancers that have spread to the lining of the abdomen(peritoneum), including lymphoma. These types of cancers usually occur along with the buildup of fluid in the abdomen (ascites).

There are few probable explanations for raised CA -125 levels in abdominal tuberculosis.

1. Activation of inflammatory cascades due to mycobacterium may cause mesothelial cell proliferation leading to elevated CA-125 levels.
2. A second possible theory may be the similarity of certain surface antigens of mycobacterial cell membrane with epitopes of CA-125 tumour marker.

Some cases of elevated CA-125 in peritoneal TB have been reported previously. Elevated serum CA-125 levels of 1255 U/ml in advanced abdominal tuberculosis. *Thakur V, et al. Med Oncol. 2001*.reported a case of a 48 year old female diagnosed with TB peritonitis ,which was cured with anti-tubercular treatment and tumour marker level returned to normal.

Zhang Y ,et al., reported a case of pelvic tuberculosis mimicking ovarian carcinoma with adnexal mass and a very high Ca125.

In another case reported by *Tan et al* ,a patient finally diagnosed with peritoneal TB showed elevated serum CA -125 levels mimicking advanced stage of ovarian cancer ,after following ATT, the symptoms resolved and CA- 125 levels returned to normal.

CONCLUSION

In cases of abdomino-pelvic mass with or without ascites, elevated CA-125 can be caused by tuberculosis .Peritoneal biopsy can be performed to confirm the diagnosis and prevent unnecessary laparotomies. Monitoring of response to ATT can be done by using

CA-125 levels. CA-125levels can be evaluated to rule out peritoneal tuberculosis but we need further studies to confirm our findings.

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