INTRODUCTION

The common causes of intractable ascites are portal hypertension, congestive cardiac failure, chronic renal failure, tuberculosis and malignancies. The evaluation of such patients includes ascitic fluid cell count and albumin with serum ascites albumin gradient (SAAG) and cytology. In appropriate patients, radiological tests and tumor marker estimation are performed. In women, peritoneal/ovarian carcinoma is an important cause of malignant ascites. Serum CA-125 and ascitic fluid cytology are performed for diagnostic clues. However, like all tests their interpretation must be done in the light of Bayesian considerations involving pre-test probabilities.

CASE REPORT

A 62 years lady presented to her physician with abdominal distension of three months duration. She was a known case of rheumatic heart disease, with mitral stenosis, aortic stenosis with incompetence and tricuspid stenosis with incompetence. She had undergone triple valve replacement 18 years ago. She had three episodes of congestive cardiac failure, 7 years, 3 years and 2 years prior to the current illness. She was managed with diuretics on each occasion. The last echocardiogram performed two years earlier revealed normally functioning aortic, mitral and tricuspid prosthetic valves.

CT scan of the abdomen showed ascites. Echocardiography revealed normal aortic and mitral prostheses and trivial mitral and tricuspid regurgitation. The complete blood count and liver and renal functions were normal. Ascitic fluid analysis revealed albumin 20.3 g/l with serum albumin of 34 g/l. The patient was given empirical anti-tubercular treatment for 1.5 months without symptomatic improvement. Ascitic fluid cytology revealed suspicious looking carcinoma cells. Serum CA-125 was elevated to 516 U/ml. Based on the report of raised CA-125, cytology and rapidly refilling ascites, she was started on chemotherapy (paclitaxel plus carboplatin) for primary peritoneal carcinoma. However there was no objective response after 2 courses; CA-125 level was 478 U/ml and she continued to have tense ascites that required repeated paracentesis (total 27 litres). She was then referred to our institution as a case of resistant primary peritoneal carcinoma.

On physical examination the vital signs were normal. She had bilateral pedal edema, abdominal wall edema and tense ascites but no organomegaly. The jugular venous pressure was elevated. Prosthetic valve clicks were well heard and an apical grade 2/6 holosystolic murmur was heard. Investigations revealed elevated CA-125 (445 U/ml), ascitic fluid albumin 13 gm/l, serum albumin 26 gm/l and repeatedly negative ascitic fluid cytology for malignant cells. Review of the original cytology slide showed only lymphocyte rich inflammatory smear. The portal venous Doppler and esophago-gastroscopy were normal. Repeat CT scan of abdomen showed massive ascites with lobulated, mildly shrunken liver and dilated inferior vena cava. MRI of chest did not show constrictive pericarditis. Echocardiography showed grossly dilated left atrium, border line LVH, good left ventricular ejection fraction.
(70%), normally functioning mitral and aortic valves but severe tricuspid stenosis. The final diagnosis was prosthetic tricuspid valve dysfunction resulting in severe tricuspid stenosis. The patient underwent balloon tricuspid dilatation with rapid relief of ascites and edema over the next few weeks.

**DISCUSSION**

This case demonstrates several potential pitfalls confronting the physician. The first involves misinterpretation of elevated CA-125 levels to be diagnostic of epithelial peritoneal/ovarian carcinoma. It has been emphasized that CA-125 levels are neither sensitive nor specific for peritoneal/ovarian carcinoma. The level can be normal in more than 50% of patients in early stage disease and it can be significantly elevated in several conditions like endometriosis, pelvic inflammatory disease and pleural and peritoneal effusions of many etiologies like chronic renal failure, cirrhosis, nephrotic syndrome, tuberculosis, congestive cardiac failure and many malignancies. In a recent report it was shown that patients with massive pleural effusion can also have markedly elevated CA-125 in the absence of ovarian carcinoma. The second lesson involves the interpretation of ascitic fluid cytology. The accuracy of this test in differentiating reactive mesothelial cells from neoplastic cells is about 95 percent. However an experienced cytopathologist is of paramount importance.

Although tricuspid regurgitation is common in rheumatic heart disease, tricuspid stenosis is uncommon. Ascites has been reported in 7.7 percent of patients with tricuspid stenosis.

Correct appraisal of commonly available tests like CA-125, albumin and cytology in the light of patient's history, examination and overall clinical picture is of utmost importance in order to avoid diagnostic and therapeutic pitfalls. Tricuspid stenosis is an uncommon but correctable cause of intractable ascites.

**REFERENCES**