

# Malignant Ascites Of Unknown Primary Tumour Site: A Clinical Dilemma

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## Abstract

Malignant Ascites is an adverse event in the course of malignancy. In 10-20% of cases, the primary tumor may be difficult to detect and presents as a clinical enigma. Ascitic fluid analysis, tumor markers, radiological imaging and even diagnostic laparoscopy may fail to detect the primary tumor. Due to the limited survival rate, supportive and symptomatic therapy remains the mainstay of the management and an aggressive approach is not indicated.

We present a case of malignant ascites in which the primary tumor remained unknown.

## INTRODUCTION

Malignant ascites, a manifestation of advanced malignant disease usually follows peritonitis carcinomatosa, indicating the presence of malignant cells in the peritoneal cavity.<sup>1</sup>

The common primary sites associated with malignant ascites are ovary, endometrium, colon, rectum, cervix and stomach.<sup>2,3</sup> Malignant ascites is also associated with lymphoma, breast carcinoma, carcinoma of the prostate and digestive endocrine tumours such as carcinoid tumours.<sup>25,26,27,28</sup>

## CASE REPORT

A 40-year-old male, with an average body built, presented with a progressive distension of the abdomen since 15 days. There was no history of fever, loss of weight, vomiting, jaundice and altered bowel habits. Examination revealed only a gross ascites. Digital rectal examination was found to be normal.

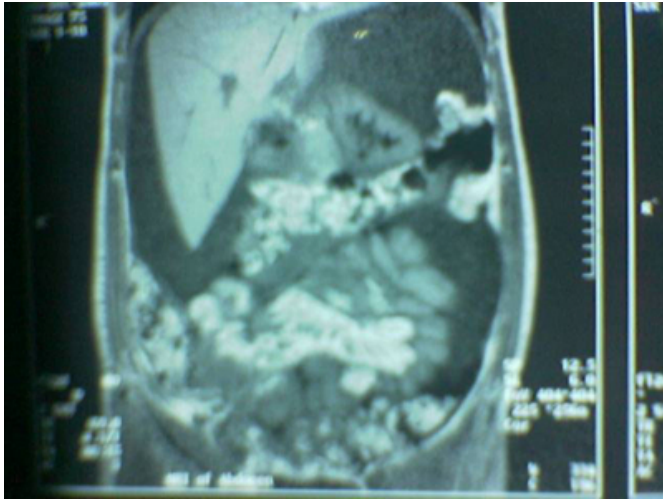
The relevant laboratory findings were: Haemoglobin 13.9gm/dl, Total Leukocyte Count 14390, Differential Leukocyte Count: Neutrophils 68%, Lymphocytes 31%, Eosinophils 1% and ESR 17mm (1<sup>st</sup> hr). Liver function tests and renal function tests were within normal limits. Chest X-ray was normal. Plain X-ray of the abdomen showed a diffuse haziness suggestive of ascites.

Repeated therapeutic abdominal paracentesis (which showed

a grossly hemorrhagic ascites) was performed to relieve the symptoms. Biochemical analysis of ascitic fluid showed: Glucose 143mg/dl and Protein 5.8gm/dl. The cytological study of the centrifuged ascitic fluid showed atypical cells with marked anisocytosis, altered N:C-ratio and anisonucleosis. Serum - Ascites Albumin Gradient (SAAG) was found to be 6gm/l.

MRI of the abdomen suggested ascites with a thickened omentum and mesentery with mesenteric lymphadenopathy. (Fig-1) A diagnostic laparoscopy was planned and revealed ascites with peritoneal seedlings, partially distended ileal loops adhered to the pelvic cavity and a thickened and rolled up omentum around the greater curvature of the stomach, biopsy of which showed chronic inflammation with fibrosis.

**Figure 1**



MRI of the abdomen showing ascites with a thickened omentum.

Post-operatively, the patient was subjected to upper GI endoscopy, which was found to be normal. A colonoscopy was done in which the scope could not be negotiated beyond 30cm from the anal verge, suggesting a stricture without any obvious growth. A Barium enema was planned which showed a narrowing at the recto-sigmoid junction. (Fig-2) However, Carcino-Embryonic Antigen (CEA) study was within normal limits. Malignant ascites of unknown primary tumor was a clinical dilemma.

**Figure 2**



Barium enema showing a suspicious narrowing in the region of the recto-sigmoid junction.

## **DISCUSSION**

In 10-20% of malignant ascites, the primary tumor may be difficult to detect.<sup>2,3</sup>

Although lymphatic obstruction has been considered the major pathophysiologic mechanism behind its formation, recent evidence suggests that immune modulators, vascular permeability factors such as vascular endothelial growth factor and basic fibroblast growth factor and metalloproteinase are contributing significantly to the process.<sup>1,4</sup>

A grossly bloody peritoneal effusion along with a Serum-Ascites Albumin Gradient (SAAG) less than 11gm/l is commonly associated with malignant ascites.<sup>3,5</sup> Markedly elevated ascitic fluid levels of vascular endothelial growth factor, cholesterol, type IV collagenase, fibronectin, protein and lactate dehydrogenase are diagnostic of malignant ascites.<sup>6,7,8,9,10</sup> Malignant cells will be detected in ascitic fluid in nearly 40-60% of patients.<sup>10,11</sup> Elevated levels of tumor markers such as CEA, CA-125, CA 19-9, PSA and -HCG may help in the diagnosis.<sup>12</sup>

Radiological imaging such as CT scan may not detect a primary in 10-20% cases of malignant ascites.<sup>2,13</sup>

Laparoscopy with biopsy, when necessary, has an excellent effectiveness and accuracy for the diagnosis of the primary tumor in malignant ascites of unknown origin.<sup>14</sup>

The management of malignant ascites of unknown primary tumor is in evolution. Repeated abdominal paracentesis may be useful in reducing symptoms. Intraoperative placement of Foley's catheter for continuous drainage of malignant ascites carries a high mortality rate.<sup>15</sup> Intraperitoneal instillation of radioisotope chromic phosphate colloid (<sup>32</sup>P), immunotherapeutic agents such as trifunctional antibodies, endostatin adenoviral vector and triamcinolone hexacetanide have been tried. Octreotide as an agent for palliative care has also been studied.<sup>16,17,18,19,20</sup>

Newer approaches such as cytoreductive surgery and intraperitoneal chemotherapy administration under hyperthermic conditions (40 & 3176;C to 43 °C) have been reported with success.<sup>21</sup> Peritoneal venous shunts such as LeVeen and Denver shunt offer palliation.<sup>22</sup> Abdominal compartment syndrome and spontaneous bacterial peritonitis have been reported with untreated malignant ascites.<sup>23,24</sup>

However, the median survival of such patients is usually measured in days.<sup>2</sup>

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