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Introduction

Prostate cancer is the second most frequent malignancy in men worldwide and the second leading cause of male-cancer related death in the United States. We present the rare case of a 51-year old patient found to have liver metastasis of prostate origin, which was initially thought to be of gastrointestinal origin given elevated Carcinoembryonic Antigen (CEA) and CA 19-9

Case Report

A 51-year-old male patient with history of ulcerative colitis status post total colectomy (30 years prior), presented with progressive abdominal distension and unintentional 20 pound weight loss over a two month period

Computed tomography (CT) scan of the abdomen showed findings concerning for metastatic disease with innumerable hepatic mass lesions, lymphadenopathy without biliary dilatation. Cancer markers and routine labs are shown in Table 1 and 2

Liver biopsy was performed which revealed a poorly differentiated adenocarcinoma of prostate origin with positive staining for NKX3.1 and elevated PSA

While therapy was initiated, in the setting of worsening bilirubin/aminotransferases from increased tumor burden, patient was referred for palliative care and hospice

Discussion

Prostate cancer is relatively slow-growing with a 96.8% 5-year survival rate. The incidence of prostate cancer in the 45-54 year age group is merely 7.2% and median age at diagnosis is 67 years. Less than 7% of patients are found to have aggressive cancer with metastasis to distant sites.

Results

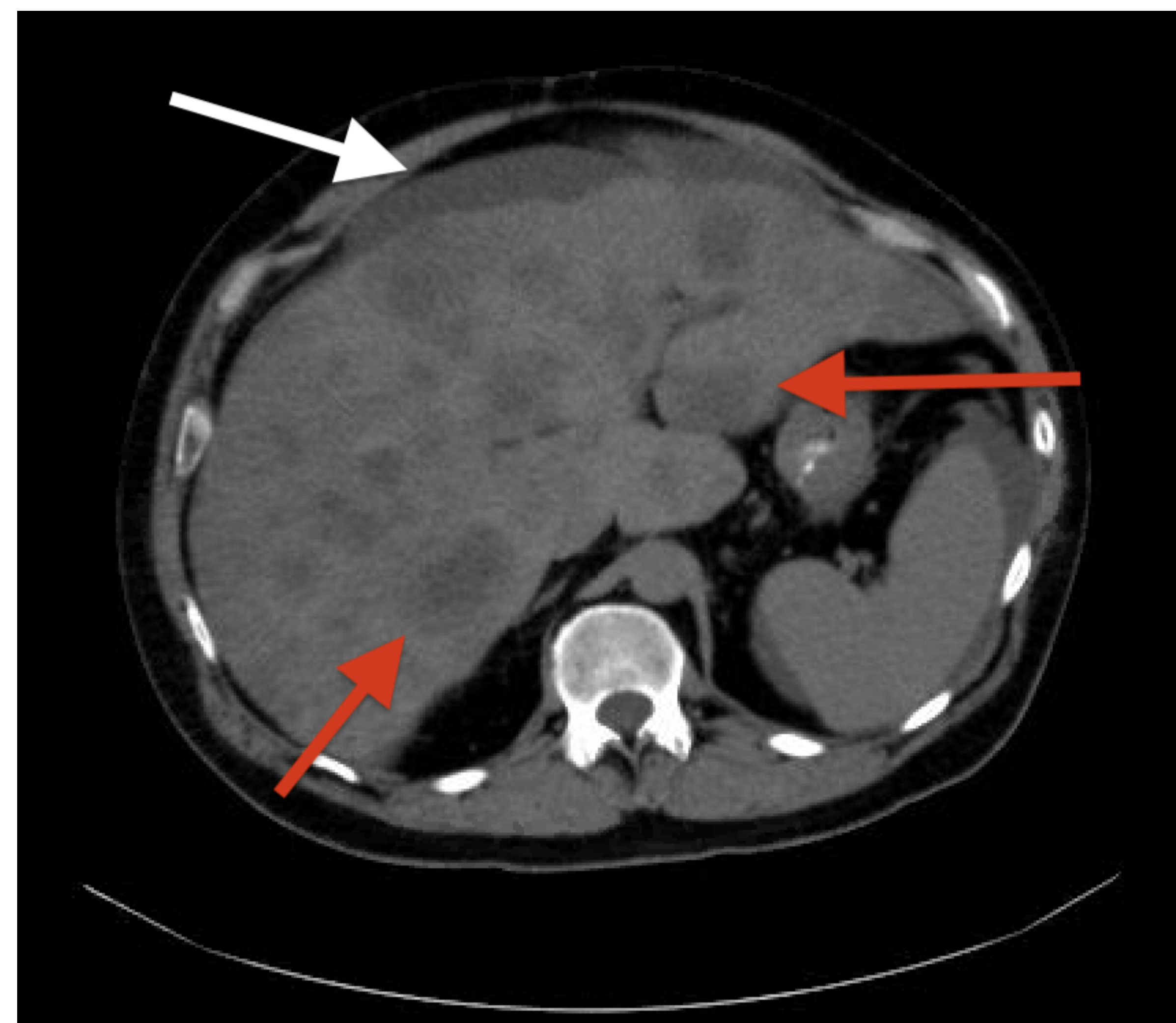


Figure 1: CT of the abdomen, showing numerous lesions throughout the grossly enlarged liver by red arrows. There is a nodular contour the liver surface. Mild perihepatic ascites seen as (white arrow)

Table 1: Various serum tumor markers

Tumor Marker	Value
Serum AFP	2.7 ng/ml
Chromogranin A	111 ng/ml
Carcinoembryonic antigen (CEA)	741 ng/ml
Carbohydrate antigen 19-9 (CA 19-9)	892 ng/ml
Prostate-Specific Antigen (PSA)	575 ng/ml

Table 2: Routine Hepatic Function Labs

Lab	Value
Total Bilirubin	3.8 mg/dL
Direct Bilirubin	3.0 mg/dL
Alkaline Phosphatase (ALP)	722 unit/L
Aspartate Aminotransferase (AST)	395 unit/L
Alanine Aminotransferase (ALT)	112 unit/L

Discussion

The most common non-lymph metastatic sites are liver, bone and lung however liver metastases have the worst prognosis with a median overall survival time of only 13.5 months.

The most common tumor marker for prostate carcinoma is serum PSA, however there is no current guideline recommending periodic PSA measurements. The liver is the most frequent site of metastasis in colorectal cancer (CRC) and 70% of CRC patients eventually develop liver metastases. CEA and CA 19-9 are tumor markers commonly elevated in CRC, in addition to other benign and malignant conditions. CA 19-9 is also seen in cholangiocarcinoma.

Elevated levels of CEA and CA 19-9 in the setting of metastatic prostate cancer have rarely been reported in literature, with merely eight known other cases

Given our patient's underlying ulcerative colitis, suspicion for cholangiocarcinoma may have been higher on our differential, especially with known history of primary sclerosing cholangitis. In such cases, certain diagnostic modalities such as liver biopsy may affect treatment modality as seeding can occur and therefore is prohibitive

Conclusions

Our case highlights a rare presentation of liver metastasis and elevated CEA and CA 19-9 in the setting of metastatic prostate cancer. Secondly, we must consider role of tumor markers in making diagnosis. Certain diagnostic modalities such as liver biopsy may affect treatment modality. Furthermore, the degree of tumor burden and hepatic function will affect treatment course. Most importantly we highlight as clinicians to keep a broad differential and bear in mind diagnostic bias.