

## HEPATOCELLULAR CARCINOMA HAVING UNUSUAL APPEARANCE OF TUMOR THROMBUS IN CBD ALONG WITH COINCIDENCE OF GALL BLADDER ASCARIASIS

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### ABSTRACT

**Hepatocellular carcinoma** is the most common type of liver cancer. Liver cancer usually is caused by liver scarring or cirrhosis. Cirrhosis typically is caused by alcohol abuse, hepatitis, or autoimmune disease. People with hepatitis B or C may be at risk for hepatocellular carcinoma, even though they do not have cirrhosis. In Asia and Africa viral infection is most common cause whereas alcoholism being the most common cause of hepatic cirrhosis in USA and Europe leading to HCC. HCC is an aggressive tumor known for its propensity to directly invade the portal and hepatic veins, but lymphatic and distant metastases are not rare, especially in tumors greater than 5 cm [6]. Most extrahepatic HCC occurs in patients with an advanced intrahepatic tumor stage (stage IVa), as expected [5, 7]. The prognosis of patients with extrahepatic metastases is generally very poor.

Ascariasis, the most common helminthic infection is caused by *ascaris lumbricoides*. Usually the adult worm lives in the small intestine. The migration of the parasite from small intestine into other organs is a very dangerous aspect of ascariasis. Rarely, it migrates through the papilla of Vater and may enter the common bile duct. Presence of *Ascaris lumbricoides* in gallbladder is rare entity as it is difficult to reach their due to narrow and tortuous cystic duct.

We are reporting a case of Hepatocellular carcinoma having direct infiltration into CBD presenting as tumor thrombus along with coincidence of GB ascariasis.

**Key words:** Hepatocellular carcinoma, Tumor thrombus, CBD, Ultrasound, Ascariasis.

### INTRODUCTION

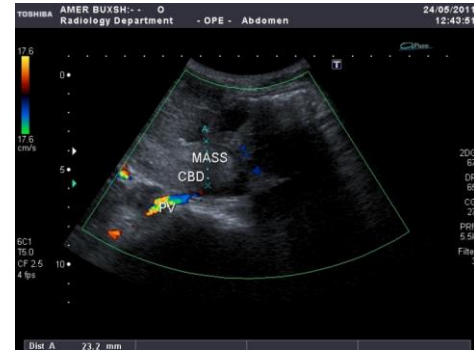
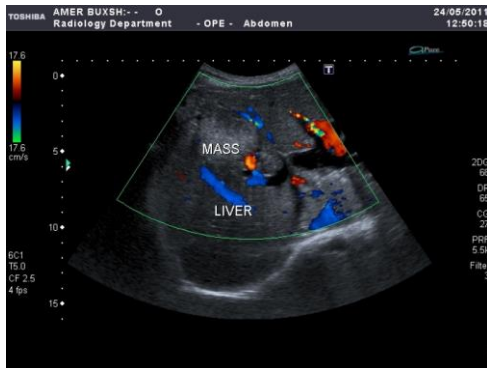
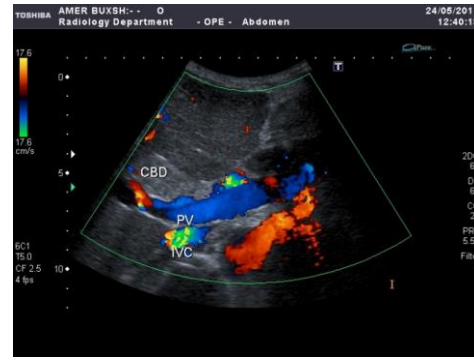
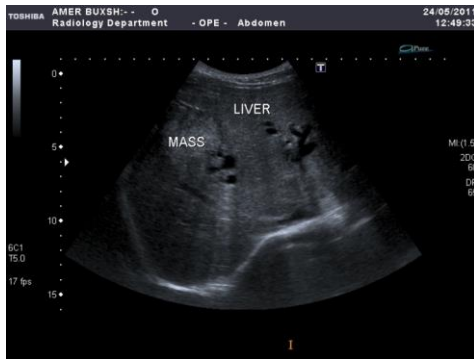
Hepatocellular carcinoma is usually associated with viral hepatitis B and C along with liver cirrhosis caused by chronic alcoholism. HCC is an aggressive tumor and usually infiltrate into the adjacent part of liver and invade the hepatic and portal veins. Very rarely it may infiltrate directly into right or left hepatic ducts and presents as CBD thrombus causing obstructive jaundice. Some times HCC may be coincidentally associated with GB ascariasis. Usually the adult worm lives in the small intestine. Rarely, it migrates through the papilla of Vater and may enter the common bile duct and through cystic duct into gall bladder.

### CASE REPORT

A 60 years male patient was referred to our ultrasound department for abdominal scan. His presenting complaints were pain in right hypochondrium for last 2

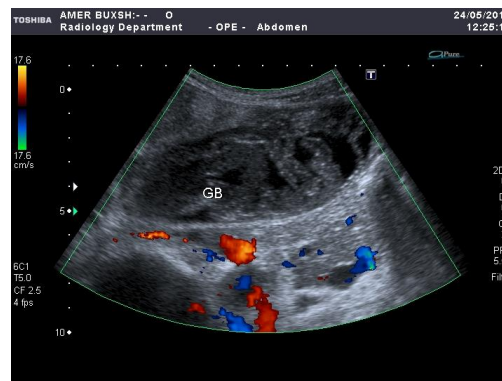
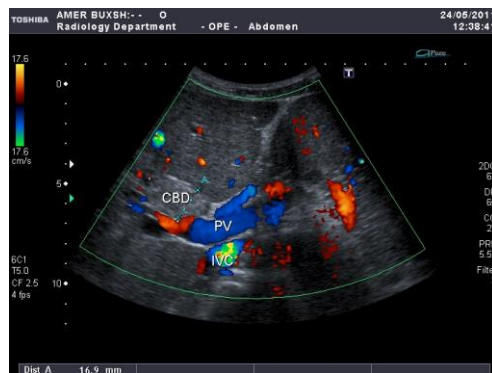
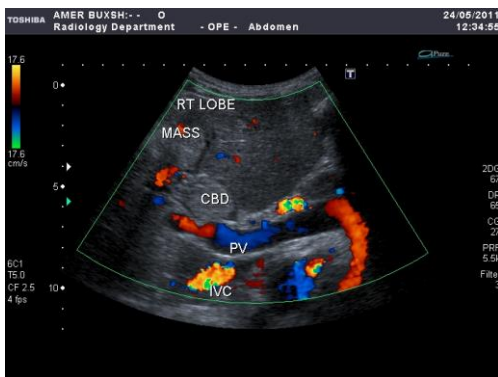
months along with yellow discoloration of sclera for last one month. His laboratory investigations revealed the following: LFT;s showed Serum Bilirubin 11.2 mg/dl, SGPT 162 mg/dl, SGOT 149 mg/dl and Alkaline phosphate 273 mg/dl. Hemoglobin was 10.6 g%; Total leucocyte count was 9400 per cmm with P-75%, L-20% and E-5%: Urine analysis was normal. Serum amylase was within normal limits. Plain X-ray of the abdomen did not reveal any radio-opaque shadow or any free gas under the right dome of diaphragm. Skiagram of the chest was also normal

His abdominal ultrasound was performed and showed a mix echogenicity mass seen in right lobe of liver having ill defined margins. An extremely rare finding was observed that mass was infiltrated into the right hepatic duct and then extends into the CBD as tumor thrombus. Gall bladder was distended and contains tubular echogenic non-shadowing structures representing ascariasis which was coincidental finding.



Sonographic images of the liver showing hepatic mass with dilated intra-hepatic biliary channels.

Sonographic images of the liver showing tumor thrombus extending into the CBD, while portal vein shows normal flow.



Sonographic images of the liver showing hepatic mass, is extending into the CBD, while portal vein shows normal flow.

Sonographic images of distended gall bladder containing mass of tubular structures consist with ascariasis.

## DISCUSSION

Hepatocellular carcinoma (HCC) is the most common primary liver tumor and the third leading cause of cancer-related death<sup>1</sup>. Cirrhosis is the major risk factor for development of HCC, and approximately 78% of HCCs are caused by chronic infection with hepatitis B virus or hepatitis C virus<sup>8</sup>. The main risk factors for hepatocellular carcinoma include alcoholism, hepatitis B, hepatitis C, Aflatoxin, hemochromatosis, Wilson's disease and type 2 diabetes<sup>2</sup>.

First tool for diagnosis of HCC is ultrasound due to the cost-effectiveness. Ultrasound can demonstrate location and size of lesion along with infiltration into surrounding vascular structures<sup>8</sup>. In patients with a higher suspicion of HCC (such as rising alpha-fetoprotein and des-gamma carboxyprothrombin levels), the best method of diagnosis involves a CT scan of the abdomen using intravenous contrast agent and three-phase scanning.

HCC is known for its tendency to directly invade the portal and hepatic veins, but a measurable number of patients develop extrahepatic vascular invasion and other distant metastases, most commonly to the lungs, abdominal lymph nodes, bones, adrenal glands, and diaphragmatic surface. Very rarely, it may infiltrate into the right or left hepatic duct and then into the CBD<sup>4,6</sup>.

Filling defect in common bile duct, either diffuse or focal, could be due to calculus, sludge, pus, thrombus, tumor, gas, foreign body, and parasites. Calculus or calculi are excluded in this case because the intraluminal echogenic focus did not shadow one or multiple round or oval echogenic structures. Sludge and pus would not be expected to be so discretely tubular. Tumor thrombus usually show extension from hepatic mass, filling its lumen causing retrospective dilatation of intra hepatic biliary channels as demonstrated in this case<sup>5</sup>.

Many tumors may involve the common hepatic duct or the common bile duct, including cholangiocarcinoma, local adenopathy, and direct spread from gallbladder carcinoma as well as hepatocellular carcinoma<sup>6</sup>. Cholangiocarcinoma usually manifests as an infiltrating process and produces mural thickening, which often appears as a small mass, although it less often appears in nodular or papillary forms. Hepatocellular carcinoma, if it obstructs bile ducts, usually does so by direct compression; it rarely manifests as a bulky intraluminal mass. Local adenopathy usually obstructs the bile duct by means of extrinsic compression.

*Lumbricoides* infect approximately 1 billion people worldwide<sup>9</sup>. It is distributed throughout the tropics and subtropics. Most cases occur where there is poor fecal

sanitation<sup>10</sup>. The human infection life cycle begins by ingestion of an egg, with the larvae hatching in the small intestine. The larvae invade the small-bowel mucosa, migrate through the circulatory system to the lungs, invade the alveoli, ascend the tracheobronchial tree, and then are swallowed into the small intestine where they mature into adult worms. Ascarids may reach 40 cm in length with a width of 3–6 mm<sup>12</sup>. Intestinal infestation is often asymptomatic. Migration of worms into the biliary tree is a well-known complication<sup>11</sup>, which may result in biliary colic, cholecystitis, cholangitis, intrahepatic abscesses, or pancreatitis<sup>9</sup>. After cholelithiasis, it is the second most common cause of acute biliary symptoms worldwide<sup>9</sup>.

US readily depicts the worm in the bile ducts or gallbladder<sup>13,14</sup>. *Lumbricoides* are usually manifested as echogenic tubular structures having diameter of approximately 3–6 mm, containing relatively hypoechoic center, and a more echogenic walls<sup>12,13</sup>. Worms may exhibit slow movement.

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