

## Carcinoma Stomach with HCV- An Uncommon Association

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### 1. Abstract

#### 1.1. Introduction

Hepatitis C Virus (HCV) infection is strongly linked to hepatocellular carcinoma (H.C.C) and also associated with an increased risk of gastric carcinoma, although the connection to stomach cancer is debated, with some studies showing higher risk, while others find it less frequent, potentially linked to chronic inflammation, male sex, or co-infection with Pylori; early HCV treatment is crucial as it can cure the virus, significantly lowering cancer risks, though risk may not be fully reversed. HCV causes persistent inflammation, which can damage stomach lining cells, potentially leading to cancerous changes, similar to H. pylori.

#### 1.2. Case Report

A fourth seven-year-old male having non-significant past history, non- alcoholic & non- smoker presented with high grade fever for last seven days. The fever was continuous type and was associated with mild rigor and chills. There was no history of cough, pain abdomen, urinary or bowel symptoms. He was seen by some local practitioner and was prescribed oral antibiotics and antipyretics but for no relief. Later on, he got admitted in private hospital where broad spectrum intravenous antibiotics were started and on detailed evaluation was found to be HCV positive on ELISA test. Thus, HCV RNA quantitative test was done which revealed viral load of 5 lakh copies/ml. His complete hemogram revealed mild leucocytosis was detected but renal function tests, thyroid profile, lipid profile, blood sugar, urine complete, stool examination, autoimmune profile were all normal. His fibroscan score was 9 Kpa suggestive of F2 fibrosis, hence was started on sofosbuvir 400 mg & daclatasvir 60 mg combination for 12 weeks. His ultrasonogram revealed suspicious omental thickening and mass lesion in fundal area of stomach, along with mild ascites. The diagnostic ascitic tap was done and on microscopic examination, it was suggestive of malignancy. The same slides were re-confirmed by second pathologist who also gave same report of it being malignant. Thus,

PET scan was carried out which showed malignant lesion in fundal area in stomach with metastasis in momentum and sigmoid colon. The endosurgery opinion was taken who proceeded with diagnostic laparoscopy which showed it to be widely metastasized in whole of abdomen. The diagnostic biopsy taken on laparoscopy was inconclusive. The patient attendants shifted in some other private hospital for second opinion where in view of persistent fever, he was started on anti-tubercular treatment but even after one month, fever persisted and weight loss continued. After a gap of total three months of diagnosis, patient died.

#### 1.3. Conclusion

The HCV not only effects liver but have many extra hepatic impacts including malignancy of various organs of body like gastric. The malignancy can also have atypical manifestations like fever and detailed evaluation can lead to widely metastatic lesion. Thus, early detection and timely treatment can save from wide spectrum of malignancy.

### 2. Introduction

Hepatitis C virus (HCV) is responsible for acute and chronic liver disease that infects an estimated 150 million individuals worldwide [1]. In addition to hepatic complications such as steatosis, cirrhosis and HCC, HCV causes extrahepatic complications including mixed cryoglobulinemia, dyslipidaemia, diabetes, obesity, cardiovascular events and neurological manifestations [2,3] More-over, several population-based, large case-control or cohort studies had demonstrated the associations between HCV infection and extra-hepatic malignancies including lymphoid, head and neck, pancreas, lung, renal, rectal, oesophageal, prostate, thyroid, breast, kidney and colon cancers [4-7]. A study showed HCV infection is involved in gastric acid secretion [8], gastric-cancer-derived FU97 cells exhibited a much higher susceptibility to cell-culture-adapted HCV/JFH-2 infection than observed in Huh7 cells [9], among patients with HCC, the presence of HCV antibody (Ab) was positively correlated with the frequency of gastric cancer; [10] HCV-ribonucleic

acid (RNA) has been frequently detected in gastric mucosa, [11,12] and a case report even showed spontaneous elimination of serum HCV-RNA after total gastrectomy for early gastric cancer in a patient with chronic hepatitis C (CHC) [13] in addition, some infectious agents, including *Helicobacter pylori* (HP) [14] and human papilloma virus, [15] are involved in the development of gastric cancer, while the role of HCV infection in gastric cancer remains elusive. Cheng et al showed that HCV infection, male sex and old age were risk factors for gastric cancer development [16]. Yusha Yang et al concluded that both chronic HBV and HCV infections were related to a high risk of gastric cancer. The plausible mechanisms underlying such association might be correlated to HBV/HCV infection-induced persistent inflammation, immune dysfunction, and cirrhosis [17].

### 3. Case Report

A fourth seven-year-old male having non-significant past history, non- alcoholic & non- smoker presented with high grade fever for last seven days. The fever was continuous type and was associated with mild rigor and chills. There was no history of cough, pain abdomen, urinary or bowel symptoms. He was seen by some local practitioner and was prescribed oral antibiotics and antipyretics but for no relief. Later on, he got admitted in private hospital where broad spectrum intravenous antibiotics were started and on detailed evaluation was found to be HCV positive on ELISA test. Thus, HCV RNA quantitative test was done which revealed viral load of 5 lakh copies/ml. His complete hemogram revealed mild leucocytosis was detected but renal function tests, thyroid profile, lipid profile, blood sugar, urine complete, stool examination, auto-immune profile were all normal. His fibro scan score was 9 Kpa suggestive of F2 fibrosis, hence was started on sofosbuvir 400 mg & daclatasvir 60 mg combination for 12 weeks. His ultrasonogram revealed suspicious omental thickening and mass lesion in fundal area of stomach, along with mild ascites. The diagnostic ascitic tap was done and on microscopic examination, it was suggestive of malignancy. The same slides were re-confirmed by second pathologist who also gave same report of it being malignant. Thus, PET scan was carried out which showed malignant lesion in fundal area in stomach with metastasis in momentum and sigmoid colon. The endosurgery opinion was taken who proceeded with diagnostic laparoscopy which showed it to be widely metastasized in whole of abdomen. The diagnostic biopsy taken on laparoscopy was inconclusive. The patient attendants shifted in some other private hospital for second opinion where in view of persistent fever, he was started on anti-tubercular treatment but even after one month, fever persisted and weight loss continued. After a gap of total three months of diagnosis, patient died. Our patient had very short history of only fever but without any GIT symptoms and weight loss. He had a widely metastasized gastric stomach lesion and had a catastrophic phase and died within three months of diagnosis. This case makes us to learn to be more vigil while dealing with HCV patients who merits detailed evaluation for ruling out malignancy. Our attention should not only on hepatic issues but also on extra-hepatic involvement.

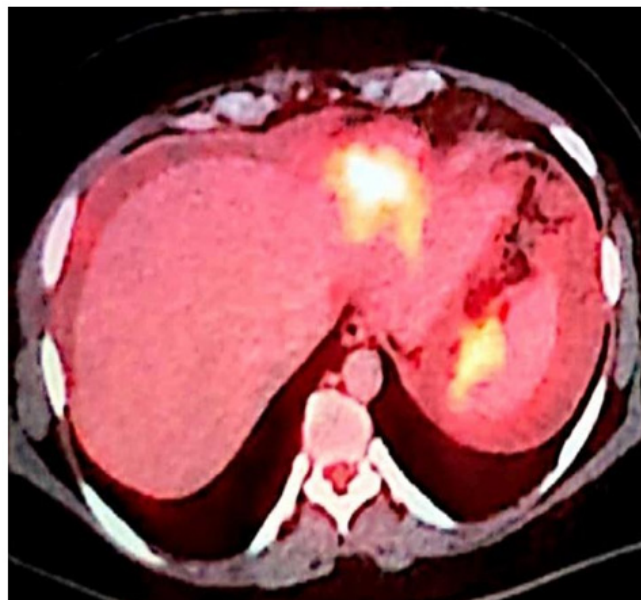


Figure 1: PET Scan Showing Gastric Fundal Hypermetabolic Lesion.

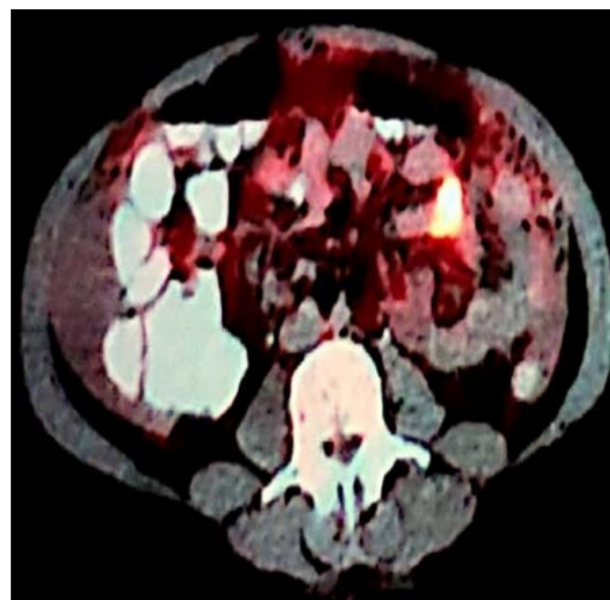


Figure 2: PET Scan Showing Sigmoid Colon Hypermetabolic Lesion.

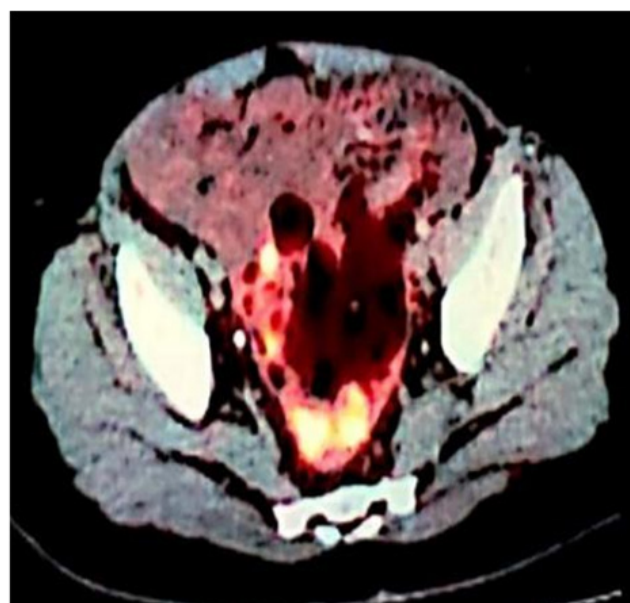


Figure 3: PET Scan Showing Hyper Metabolic Omental Deposits.



**Figure 4:** PET Scan Showing Combined lesions in stomach, colon and omentum.

#### 4. Conclusion

The HCV not only effects liver but have many extra hepatic impacts including malignancy of various organs of body like gastric. The malignancy can also have atypical manifestations like fever and detailed evaluation can lead to widely metastatic lesion. Thus, early detection and timely treatment can save from wide spectrum of malignancy.

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