

Case Report

Synchronous Presentation of Nasopharyngeal and Hepatocellular Carcinoma- A Rare Case Report

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Submitted: 17 March 2016

Accepted: 24 April 2016

Published: 25 April 2016

ISSN: 2373-9282

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OPEN ACCESS**Keywords**

- Synchronous
- Nasopharyngeal carcinoma
- Hepatocellular carcinoma

Abstract

Synchronous Nasopharyngeal carcinoma (NPC) and Hepatocellular carcinoma (HCC) is extremely rare case presentation to be reported in English literature. We report a rare case of synchronous presentation of NPC and HCC in a 56-year old male patient with a history of smoking and poor dietary habits. The patient initially presented with a diagnosis of NPC. During staging process, the abdominal ultrasonography detected solitary heteroechoic irregular mass lesion, 8.3x7.7cm in segment VI and VII at the right lobe of the liver. Ultrasound guided fine needle aspiration cytology of liver mass revealed HCC. The purpose of reporting the case is not only for its rarity but also in order to be acquainted with this coexistence and an emphasis for thorough systemic evaluation of all tobacco related like HCC and other possible associated cancers in patient of NPC with history of cigarette smoking and/or poor dietary habits for better diagnostic and therapeutic management.

INTRODUCTION

Synchronous presentation of NPC and HCC is an extremely rare presentation. NPC has an unusual variable incidence across the world (generally <1/100000), but common in South East Asia, Southern China and North Africa (ranges from 20-30/100000). NPC is uncommon in Indian /subcontinent except in north-eastern part of the country. The latest National Cancer Registry programme (NCRP), 2010 has reported the highest age-adjusted incidence rates (AARs) of NPC for males in Kohima district in Nagaland state (19.4/100000), which is close to the highest incidence rate recorded in the world. Imphal west district in Manipur state also recorded a high AAR (7.4/100000) for males. Most of districts in Nagaland, Manipur and Mizoram of North eastern part of India have recorded high AARs for NPC. NPC ranks 4th position in Manipur state of India and represents 5.7% of all cancers. NPC has a remarkable racial and geographical distribution with complex interaction of genetic, viral (Epstein Barr Virus), environmental and dietary factors [1,2]. Concurrent chemo radiation with or without adjuvant chemotherapy is the standard of care for patient with locally advanced NPC [3]. HCC represents the fourth most common malignancy worldwide and more prevalent in South East Asia and Sub-Saharan Africa.

In Manipur state of north east India, HCC ranks 7th position in Manipur state of India and represents 3.8% of all cancers (NCRP, 2010 report). Several risk factors has been described for HCC, including smoking, presence of high nitrosamines and mycotoxin contamination in poorly preserve food, fermented food, smoked meat or salted fish, alcohol, viral infection of Hepatitis B and Hepatitis C and others. Hepatic resection, liver transplant and 3D conformal radiotherapy are good options for managing localised HCC with child Pugh score A and selected cases with score B.

CASE REPORT

The patient was a 56-year-old male from Manipur, north eastern region of India. Prior to admittance in April 2013, the patient had symptom of nasal blockage and head ache for four months. He had a history of 60 packs/year cigarette smoking, consumption of 25-30g alcohol/day, fermented food, smoked meat and salted fish. None of his relatives had history of similar disease and the patient had no history of hepatitis or cirrhosis or jaundice. The nasal endoscopy revealed nasopharyngeal mass obstructing almost completely right posterior choana and partially left posterior choana. Contrast enhanced computer tomography of nasopharynx and neck revealed nasopharyngeal mass extending to the both nasal cavities with bilateral level Va

lymphadenopathy with largest lymph node had 1.5cm diameter (Figure 1). The tumour was not invading to any cranial nerve, orbit or masticator space. Examination of nasopharyngeal mass biopsy confirmed the diagnosis of undifferentiated carcinoma, WHO type III (Figure 2) and also examination of fine needle aspiration of level VA cervical lymphadenopathy revealed metastatic undifferentiated carcinoma. During staging process, the abdominal ultrasonography detected solitary heterogeneous echogenic irregular mass lesion measuring 8.3x7.7cm in segment VI and VII at the right lobe of the liver (Figure 3). The tumour was not invading to major branch of the portal vein, hepatic veins, adjacent organs or peritoneum and no findings suggestive of hepatitis or cirrhosis. The serum alfa feto protein was 1000IU/ml measured by immunoassay method. The liver function test showed marginally raised serum alkaline phosphatase, aspartate transaminase, and alamine transaminase and gamma glutamyltransferase with other parameters within normal limits. He was negative for HBV and HCV test done by immunoassay method. Examination of ultrasound guided fine needle aspiration of liver mass revealed tumour cells having moderate amount of cytoplasm, pleomorphic vesicular nucleus with intra cytoplasm and intra nuclear vacuolations, that were arranged in cohesive group and branching cluster traversed by thin capillaries, which was reported as a HCC (Figure 4). Other routine blood picture and metastatic work up were within normal limits. Patient was diagnosed as a case of synchronous NPC with T1N2M0, stage III and HCC with T1N0M0, stage I (AJCC staging system, 2010), child Pugh score A. Patient was initially managed with neoadjuvant chemotherapy – 3cycles of paclitaxel and cisplatin. On assessment, he had partial response of HCC and NPC and later treated with concurrent chemo-radiotherapy to dose of 70Gy/35 fractions to nasopharynx, enlarged neck lymph nodes and microscopic extent with weekly cisplatin 50mg/m². At 4week post RT assessment, he attended complete response for NPC and stable response for HCC. He was later subjected for surgical resection of HCC and is under close observation.

DISCUSSION

Synchronous primary malignancy of the NPC and HCC is extremely rare presentation. In a Chinese analysis, 3% of



Figure 1 CECT showing nasopharyngeal mass extending to both the nasal cavity.

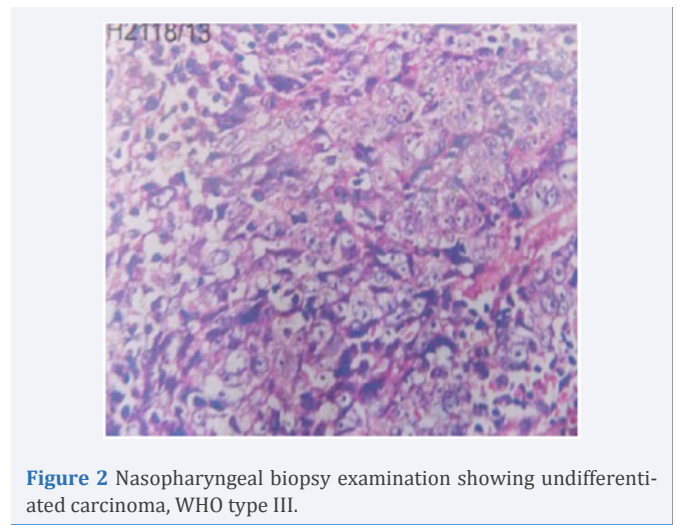


Figure 2 Nasopharyngeal biopsy examination showing undifferentiated carcinoma, WHO type III.



Figure 3 Abdominal ultrasonography showing heterogeneous echogenic liver mass.

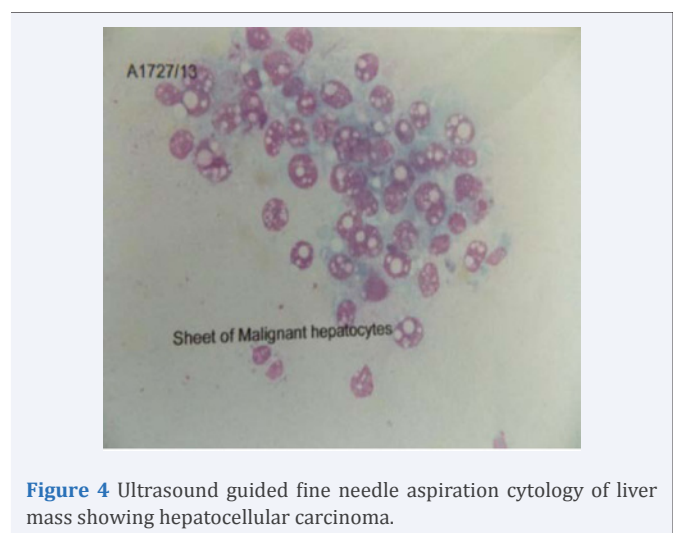


Figure 4 Ultrasound guided fine needle aspiration cytology of liver mass showing hepatocellular carcinoma.

patient with nasopharyngeal carcinoma developed a second cancer, most common site are the aero-digestive tract, skin and lympho-proliferative malignancies. The risk of developing a second liver cancer was estimated to 0.85 standardised incidence ratios [4]. The 2004 U.S. Surgeon General's report and volumes 83 and 100E of International Agency for Research

on Cancer (IARC) monographs on evaluation of carcinogenic risks to human describes 19 cancers for which evidence is considered sufficient that they are caused by cigarette smoking: lung, oral cavity, naso-, oro-, and hypopharynx, nasal cavity, paranasal sinuses, larynx, oesophagus (squamous cell carcinoma and adenocarcinoma), liver, stomach, colorectum, pancreas, kidney (body and pelvis), ureter, urinary bladder, cervix, ovary (mucinous type) and myeloid leukaemia [5-7]. Cigarette smoking is a cause of liver cancer, independent of the effects of hepatitis B and C virus infection and alcohol consumption. NNK [4-(methyl nitrosamino-1-(3-pyridyl)-1-butanone)], and several other cigarette smoke N-nitrosamines are effective carcinogens for NPC, HCC and other tobacco related cancers. Poor dietary habits like poorly preserved food, fermented food, smoked meat, salted fish contains N-nitrosamines and mycotoxin, which are causative factor for HCC [8] and N-nitrosamines and polycyclic hydrocarbon compounds, which are causative factors of NPC [9]. It is very unlikely that alcohol causes HCC, in absence of alcoholic hepatitis and cirrhosis. Heavy alcohol consumption >60-80 g/day for more than 10 years increases the risk for HCC significantly by a factor of 7.3 when compared with low to moderate alcohol consumption <40 g/day [10]. The relation between alcohol consumption and nasopharyngeal cancer is poorly defined. However, in a systematic review by Chen *et al.*, suggested that heavy alcohol consumption is associated with an increased risk of NPC. Our patient had history of low alcohol intake (25-30g/day) [2]. Having known the fact that smoking and poor dietary habits are the simultaneous risk factor for multiple cancers, so called field concretisation effect; systemic evaluation of the aerodigestive tract and organ at risk of the tobacco related cancer like HCC and other possible associated cancers such as liver, kidney, urinary bladder, pancreas & cervix should be emphasised in patient diagnosed with NPC for better diagnostic and therapeutic management.

CONCLUSION

Synchronous presentation of the NPC and HCC is extremely rare. We report this case, not only for its rarity but also in order to be acquainted with this coexistence and an emphasis for thorough systemic evaluation of all tobacco related cancers like HCC and other possible associated cancers in patient of NPC with history of cigarette smoking and/or poor dietary habits for better diagnostic and therapeutic management.

CONSENT

The case report was approved by the Institutional Ethical Committee, Regional Institute of Medical Sciences, Manipur, India and written consent was obtained from the patient.

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Cite this article

Mandal SK, Singh TT, Sharma TD, Amrithalingam V, Rai PC (2016) Synchronous Presentation of Nasopharyngeal and Hepatocellular Carcinoma- A Rare Case Report. *Ann Clin Pathol* 4(4): 1077.