Clinicopathological Analysis of Hepatic Neoplastic Lesions with Particular Reference to Morphological Pattern Assessment

Dr. Garg Rachana M.D* and Dr. Anuradha C.K. Rao M.D

1Jawaharlal Nehru Cancer Hospital and Research Centre, Formerly Post Graduate student at Kasturba Medical College, Manipal, India
2Department of Pathology, Yenepoya Medical College, Mangalore, Formerly Professor at Kasturba Medical College, Manipal, India

Abstract

Background: The liver is the site of numerous neoplastic and non-neoplastic lesions, with neoplastic lesions accounting for a prominent cause of morbidity and mortality. Being a common site for metastatic tumors, it becomes imperative to differentiate the same from hepatocellular carcinoma, owing to varied management modalities involved. Diagnosis by fine needle aspiration cytology (FNAC), is considered a prominent investigative procedure in this regard. However, it is not without its limitations and disadvantages.

Aim and Objectives: This retrospective research analyzes the cytological features of hepatic masses, with particular reference to pattern assessment, cellular and nuclear details along with background characteristics of note which could define differentiating characteristics of hepatocellular carcinoma from metastatic malignancy. Accompanying clinico-radiological and biochemical parameters that could be helpful in this regard were also studied. An attempt was also made to distinguish the features characteristic to different grades of hepatocellular carcinoma (HCC).

Method: FNAC of 114 hepatic neoplastic lesions received during a two years period in the pathology department of a tertiary care hospital were retrospectively analyzed. Clinico-radiological and biochemical parameters were correlated, and data thus retrieved was analyzed statistically for relevance. Results: Males were predominantly affected both by primary and metastatic malignancy with primary over 60 years of age. Jaundice, history of prior alcohol consumption, pre-existing liver disease, elevated LFT along with AFP levels >400 ng/ml was seen in significant cases of hepatocellular carcinoma. Radiologically, metastasis showed multiple lesions with most cases less than 5cms in diameter with invasion of adjacent structures. Analysis of three characteristic cytological features including presence of cytoplasmic bile, intranuclear inclusions and traversing blood vessel was carried out and it was observed that the highest chance of tumor being HCC was when all three were seen. After analyzing features to differentiate between the different grades of HCC it was observed that as the grades progressed the cells became undifferentiated and similarities increased. Cytohistological correlation was seen in 91.3% of cases of primary and 86.9% of metastatic malignancies.

Conclusion: Close attention to cytological features like cell clusters, intranuclear inclusions, endothelial rimming in conjunction with radiological images and biochemical markers provide valuable pointers in distinguishing between primary HCC and hepatic metastatic carcinomas thus obviating the need of invasive procedures.

Keywords: Hepatocellular carcinoma • Cytology • Intranuclear inclusions

*Address for Correspondence: Garg Rachana, Jawaharlal Nehru Cancer Hospital and Research Centre, Formerly Post Graduate Student at Kasturba Medical College, Manipal, India.

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