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CYTOLOGICAL EVALUATION OF LIVER LESION: RETROSPECTIVE STUDY OF 100 CASES AT TERTIARY CANCER HOSPITAL MAHAVIR CANCER SANSTHAN PATNA BIHAR

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ABSTRACT

Introduction: liver lesion is commonly encountered in cancer hospital for evaluation. Necessarily not all lesion are benign rather many of them are having malignant pathology. Lesions are either single or multiple and require further evaluation. Many tools are available for further evaluation but usg guided fnac is something to rely upon. Aim and objective of the study was to evaluate the utility of usg guided fnac in liver mass to differentiate metastatic carcinoma from primary neoplasm. Material and method: A retrospective study of image guided fine needle aspiration of liver lesion was evaluated from period of 3 month April 2019 to June 2019 in department of pathology, Mahavir cancer sansthan, Patna. Result: There were 110 cases of liver lesion which was taken in consideration, in which 100 samples were having sufficient cell for diagnosis. 38 cases were having single lesion, while 52 cases were having multiple lesion on ultrasonography. More common gender overall was female while most common gender to be effected by primary was female. Most common age group was more than 50 yrs. Pain abdomen and loss of appetite was most common presenting feature. On basis of cytological evaluation 76 cases were of metastatic carcinoma, in which all cases were of adenocarcinoma. Primary cancer of liver includes 20 cases. 2 cases were poorly differentiated carcinoma. Overall metastatic adenocarcinoma is most common finding in this current study. **Conclusion:** Usg guided fnac is very helpful tool to diagnose neoplastic lesion of liver and efficiently differentiate between metastatic and primary liver neoplasm. It is cost effective and less time consuming tool.

KEYWORD: Usg guided FNAC, liver lesion, hepatocellular carcinoma.

INTRODUCTION

Fine Needle Aspiration cytology (FNAC) of liver is not only helpful in diagnosis of neoplastic lesion but also differentiate between primary and secondary lesion of liver. Aspiration cytology is basically the study of cells obtained by method of vaccum.[1] Its efficacy is further increased, if done under radiological guidance. In this technique fine needle is introduced into a mass, and cellular material is aspirated, and a cytological diagnosis is rendered.[2] Apart from efficacy, this method is not only less time consuming but also cost effective make it further more meaningful.[3]

Evaluation and management of hepatic lesions is a common clinical problem and their appropriate clinical management depends on accurate diagnosis. Single and multiple mass lesions or diffuse enlargement of the liver that are suspected to be neoplastic in nature are targets of FNA. There are limited contraindications like bleeding diathesis, for which pt/INR should be done before proceeding. If talk about complication there are few to mention like focal hemorrhage, billary peritonitis, and occasionally anaphylactic shock (in case of hydatid cyst) can occour.

A 20- or 23-gauge, spinal-type needle, a syringe and a syringe holder or pistol are used to obtain cell samples from the liver lesion. Depending on the tumor location and size, the length of needle used can vary from 8 to 20 cm. Study objectives were to assess the utility of image guided Fine Needle Aspiration Cytology in the diagnosis of hepatic lesions and to study the cytomorphological features of these lesions and to categorize them as primary and secondary.

Material and method: This study evaluated 100 cases of usg guided aspiration cytology from liver. 22-guage needle or long spinal needle attached to 10 ml disposable syringe was used as the standard technique. Under aseptic conditions, the needle was introduced percutaneously during suspended respiration, into the lesion under USG guidance. The aspirate was forcibly

ejected onto a glass slide and stained by May-Grünwald-Giemsa and fixed in 95% ethanol and stained by Papanicolaou's stain.

Microsoft office 2007 was used for the analysis. Descriptive statistics like mean and percentages were used for the analysis.

RESULTS

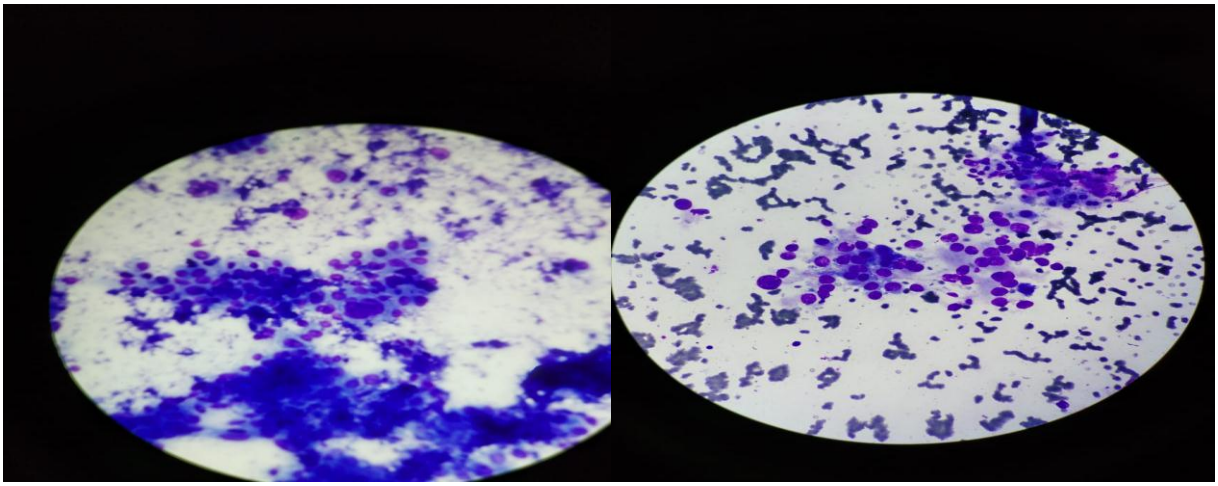
Total 110 cases of liver lesion were evaluated out of which 100 were having adequate sample and hence were taken into consideration. Out of total 100 cases of hepatic space occupying lesion 76 cases were of metastic carcinoma. Two cases cannot be categorized cytological and kept in poorly differentiated carcinoma. 2 cases was of NHL. Remaining 20 cases were of hepatocellular carcinoma. This data shows that incidence of metastic cancer in liver is significantly more as compared to primary malignancy of liver. While talking about efficacy of fine needle aspiration in hepatic space occupying lesion is something to rely upon. Aspiration cytology gives confident diagnosis in 98 out of 100 cases if aspirate is satisfactory. 2 cases were of poorly differentiated carcinoma but still advantages of cytology exceed that of exception.

Table 1: ***Age wise distribution of malignant liver lesion.***

Age group	Incidence
0-10 yrs	nil
11-20 yrs	nil
21-30 yrs	04
31-40 yrs	15
41-50 yrs	20
51-60 yrs	31
61-70 yrs	26
>70 yrs	04

Table 2: Cytological diagnosis of hepatic lesion.

Cytological diagnosis	No of patients
Inadequate	10
Hepatocellular carcinoma	20
Metastatic carcinoma	76
NHL	02
Poorly differentiated carinoma	02



Pic. 1: Shows Metastatic Adenocarcinoma, Pic 2 Shows Hepatocellular Carcinoma.

DISCUSSION

Cytological evaluation of liver lesion with help of image studies is rapid, accurate and economically valuable tool. With advantage of very few complication and easy to perform on day care basis it is highly popular tool. The diagnosis is not only reliable but cut short the time consumed for diagnosis and treatment can be started earlier.

Variety of liver space occupying lesion can occur in this study only malignant cases of liver were included. Youngest patient noted in this study was of 21 years and

oldest was of 81 years, and not surprisingly both of them were diagnosed to be secondary's metastatic carcinoma.

Majority of the patient belongs age group more then 50. Female was slightly more in number then male, however in primary hepatocellular carcinoma male exceeds that of female.[4,5] In this study all metastatic carcinoma was of adenocarcinoma type. Only in two cases cytological evaluation was not able to differentiate hepatocellular and metastatic carcinoma, and the result was interpretive as poorly differentiated carcinoma and biopsy and IHC was suggested for further evaluation.[6]

Hepatocellular carcinomas were diagnosed in 20 patient (20%) out of which 1 (9%) patient was reported to be hepatitis B positive. Smear of hepatocellular carcinoma shows highly cellular smear arranged in trabeculae, acinar pattern or scattered individually. Occasionally endothelial cell were arranged around clusters of malignant hepatocytes. Moderate to high degree of pleomorphism, stippled nuclei, macronuleoli and intranuclear incusion were commonly encountered features of HCC.[7]

On contrast to above finding, adenocarcinoma shows different features. Metastatic carcinoma was most common lesion encountered; in which adenocarcinoma was exclusive finding. Out of total 100 cases 76 (76%) were of metastatic adenocarcinoma.[8] Smear shows highly to moderate cellularity arranged in glandular pattern with highly pleomorphic cells, abundant cytoplasm, increased N: C ratio in back ground of necrosis and benign ductal cells.[9] In this study 10 cases were having unsatisfactory yield most of them were having necrotic material or very low cellularity making diagnosis difficult.

CONCLUSION

Present study clearly shows that radiological guided aspiration cytology is effective tool in diagnosis of malignant liver lesion and also help in typing with confidence. Multidisciplinary team of radiologist, cytopathologist and clinicians are helpful.[10] Conflict of needle and scalpel is not new but without any conflict needle proves its efficacy and honored approach in hepatic lesion.

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