# PRACTICAL DIAGNOSTIC APPROACH TO FOCAL HEPATIC MASSES IN ADULT PATIENTS

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## INTRODUCTION

The liver has two lobes, a larger right one and a smaller left one, according to morphological anatomy and from the anterior surface. Radiologists frequently divide the liver into functional vascular and biliary entities in order to localize focal intrahepatic lesions and during preoperative examinations for liver surgery, particularly living donor liver transplantation.

The detection of liver lesions in asymptomatic individuals has significantly risen due to the widespread availability of imaging modalities such as ultrasound (US), computed tomography (CT), and magnetic resonance imaging (MRI) for screening for liver lesions and in the investigation of nonspecific abdominal complaints.

## AIM OF THE WORK

The aim of the study was to establish the feasibility of the practical imaging approach to focal hepatic masses, in adult patients.

## SUBJECTS AND METHODS

This study was conducted 50 patients with focal hepatic masses discovered incidentally on abdominal ultrasonography, CT or MRI.

This study adopts a cross-sectional observational design to evaluate the diagnostic accuracy of ultrasound (US) with computed tomography (CT) and magnetic resonance imaging (MRI) in the detection and characterization of hepatic focal masses in adult patients.

## RESULTS

The results of this study represents 50 patients referred from the outpatient clinics to radiology department of Alexandria University hospotals. All patients were first-time (new patients) of unknown focal hepatic lesions with age range between 19–79 years old and with average 50.54±13.6 years.

**Table 1:** Association between tumor nature and age

| | Benign | Malignant | t | p |
|---|---|---|---|---|
| | Mean ± SD | Mean ± SD | | |
| **Age (year)** | 48.32 ± 14.83 | 56.36 ± 9.99 | -2.15 | 0.037* |

**Table 2:** Association Between Tumor Nature and US Findings

| Ultrasound (US) | Benign | Malignant | $\chi^2$ | P |
|---|---|---|---|---|
| | N=23 (%) | N=27 (%) | | |
| **Number of lesions** | | | | |
| **One** | 6 (75%) | 2 (25%) | | |
| **Two** | 14 (60.9%) | 9 (39.1%) | 6.88§ | 0.009* |
| **Multiple** | 0 (0%) | 5 (100%) | | |
| **Multicentric** | 0 (0%) | 1 (100%) | | |

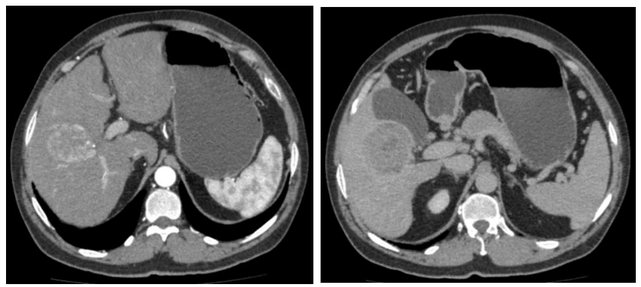

**Figure:** HCC case in triphasic CT

**Table 3:** Association between tumor nature and CT/MRI findings

| CT/MRI | Benign | Malignant | $\chi^2$ | p |
|---|---|---|---|---|
| | N=23 (%) | N=27 (%) | | |
| **Number of lesions** | | | | |
| **One** | 21 (61.8%) | 13 (38.2%) | | |
| **Two** | 2 (28.6%) | 5 (71.4%) | 10.283 | <0.001** |
| **Multiple** | 0 (0%) | 6 (100%) | | |
| **Multifocal** | 0 (0%) | 3 (100%) | | |
| | Median (IQR) | Median (IQR) | Z | P |
| **Size of lesion** | 2(1.1 – 3.85) | 5(3.65 – 9) | -3.644 | <0.001** |

## CONCLUSION

Imaging modalities including Ultrasound and triphasic CT/MRI scan are a good non-invasive tool and can be used as an important line in diagnostic approach for focal hepatic masses as differentiating benign and malignant focal liver lesions. Benign lesions like hemangiomas can be reliably differentiated from malignant liver lesion; therefore, unnecessary biopsies can be avoided.