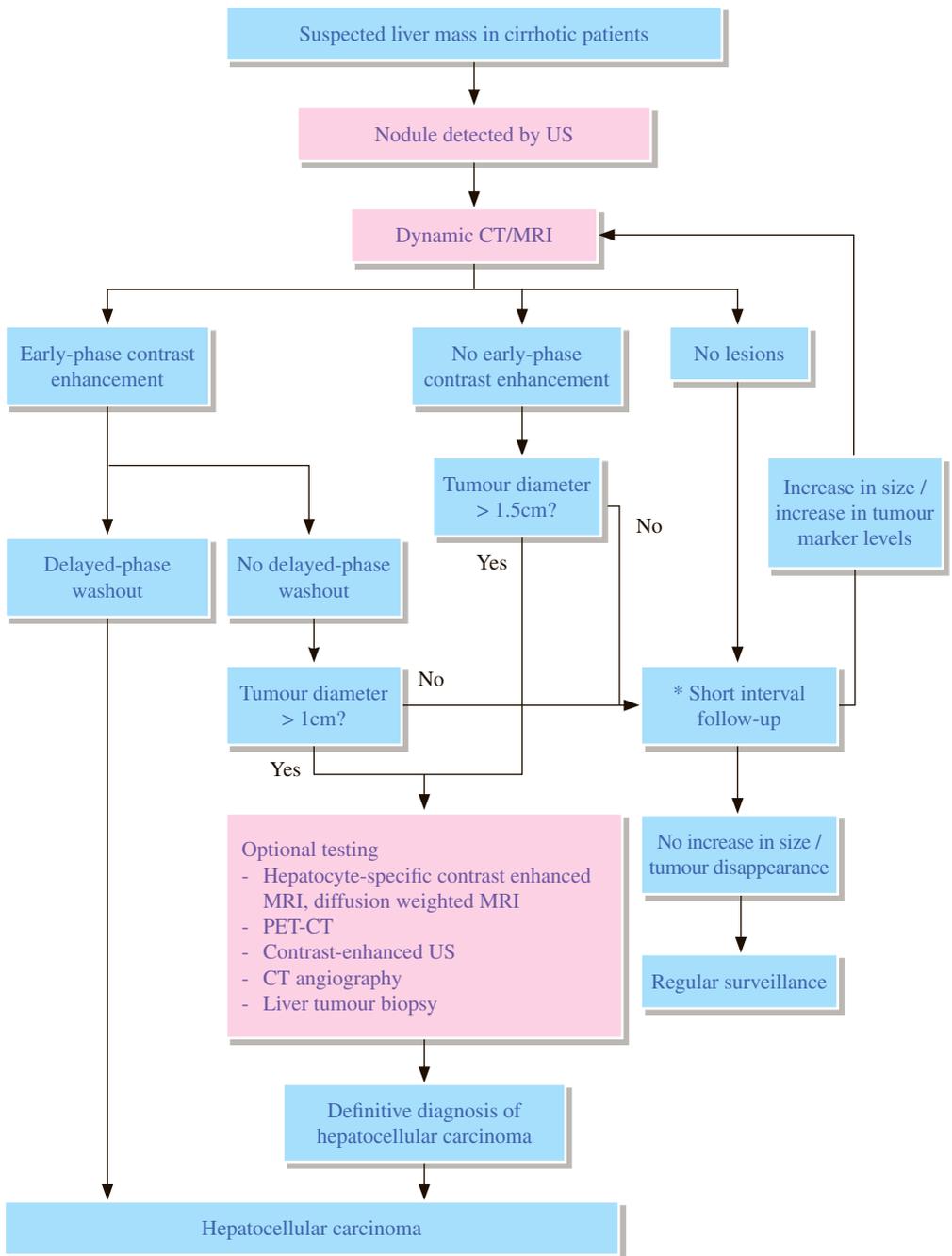


GI 10 Suspected liver mass in cirrhotic patients



\* 3<sup>rd</sup> JSH HCC Evidence-based guidelines recommend 3 months interval. Actual time interval for investigation and choice of tests will vary between hospitals depending on resources and machine availability.

## REMARKS

### 1 General

- 1.1 Radiological investigations are essential in detecting hepatomegaly (and its cause) and liver masses. It is useful in differentiating benign and malignant hepatic lesions and in assessing the resectability of liver tumours.
- 1.2 The American Association for the Study of Liver Disease (AASLD) and European Association for the Study of Liver (EASL) guidelines propose a diagnostic algorithm starting from the tumor size, whereas the Asian Pacific Association for the Study of the Liver (APASL) and Japanese Society of Hepatology (JSH) guidelines recommend an algorithm starting from arterial tumour vascularity (hyper- or hypovascular in the arterial phase).

### 2 US

- 2.1 US is the best initial imaging modality as it is non-invasive and sensitive in detecting liver lesions. It is a screening test and not a diagnostic test for confirmation.
- 2.2 Contrast-enhanced US is considered as sensitive as dynamic CT or MRI in the diagnosis of hepatocellular carcinoma (HCC).

### 3 CT and MRI

- 3.1 Dynamic CT or MRI is recommended as a first-line diagnostic tool for HCC when a screening test result is abnormal.
- 3.2 Hallmark of HCC during CT or MRI is the presence of arterial enhancement, followed by washout of the tumour in the portal-venous and/or delayed phases. The AASLD and EASL guidelines accept only four-phase CT and dynamic contrast MRI for HCC diagnosis, whereas the APASL and JSH guidelines also accept contrast-enhanced US.
- 3.3 Various studies have verified the usefulness of liver specific contrast enhanced MRI. It is included in the Japanese Society of Hepatology Liver Cancer Study Group 2014 Surveillance and Diagnostic Algorithm of HCC.

### 4 Nuclear Medicine

- 4.1 Fluorodeoxyglucose (FDG) PET has limited sensitivity for well differentiated HCC. Its low sensitivity is due to low uptake in well-differentiated HCC. However, focal FDG hypermetabolism in liver suggests high likelihood of malignancy (primary or secondary). False positive includes liver abscess.
- 4.2 For identification of intrahepatic HCC lesions, limited evidence found PET with C-11 acetate and other alternative tracers such as F-18 fluorocholine and F-18 fluorothymidine have substantially higher sensitivity than F-18 FDG PET. Currently PET is not a routine diagnostic tool according to most of the international guidelines.
- 4.3 F-18 FDG PET-CT was useful in ruling in extrahepatic metastases of HCC and valuable for ruling out recurrent HCC.
- 4.4 Tc-99m sulfur colloid scintigraphy (+/- Tc-99m mebrofenin scintigraphy) is helpful in differentiation of focal nodular hyperplasia from other hepatic lesions that do not contain Kupffer cells (e.g. hepatic adenoma and HCC).

**5 Angiography**

- 5.1 Angiography does not assume a major diagnostic role in modern liver imaging and is superseded by CT and MRI.

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