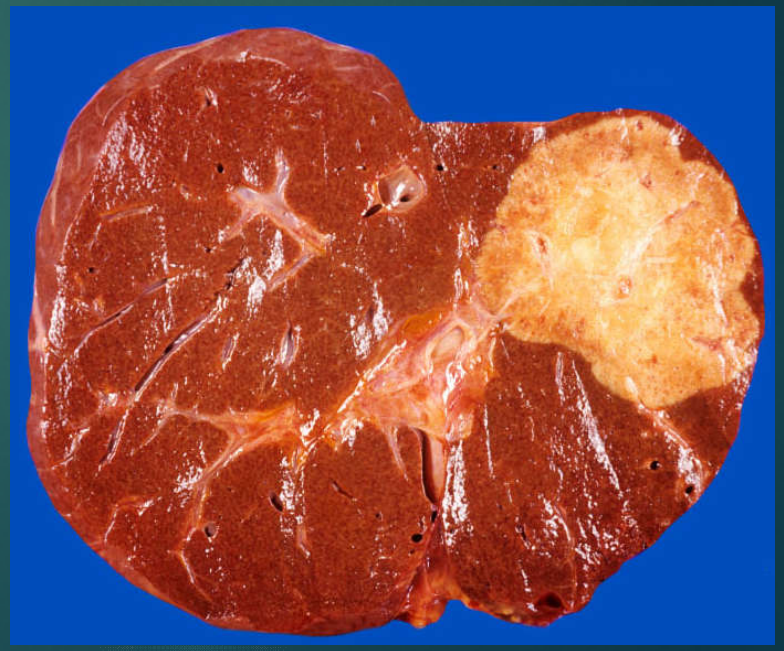
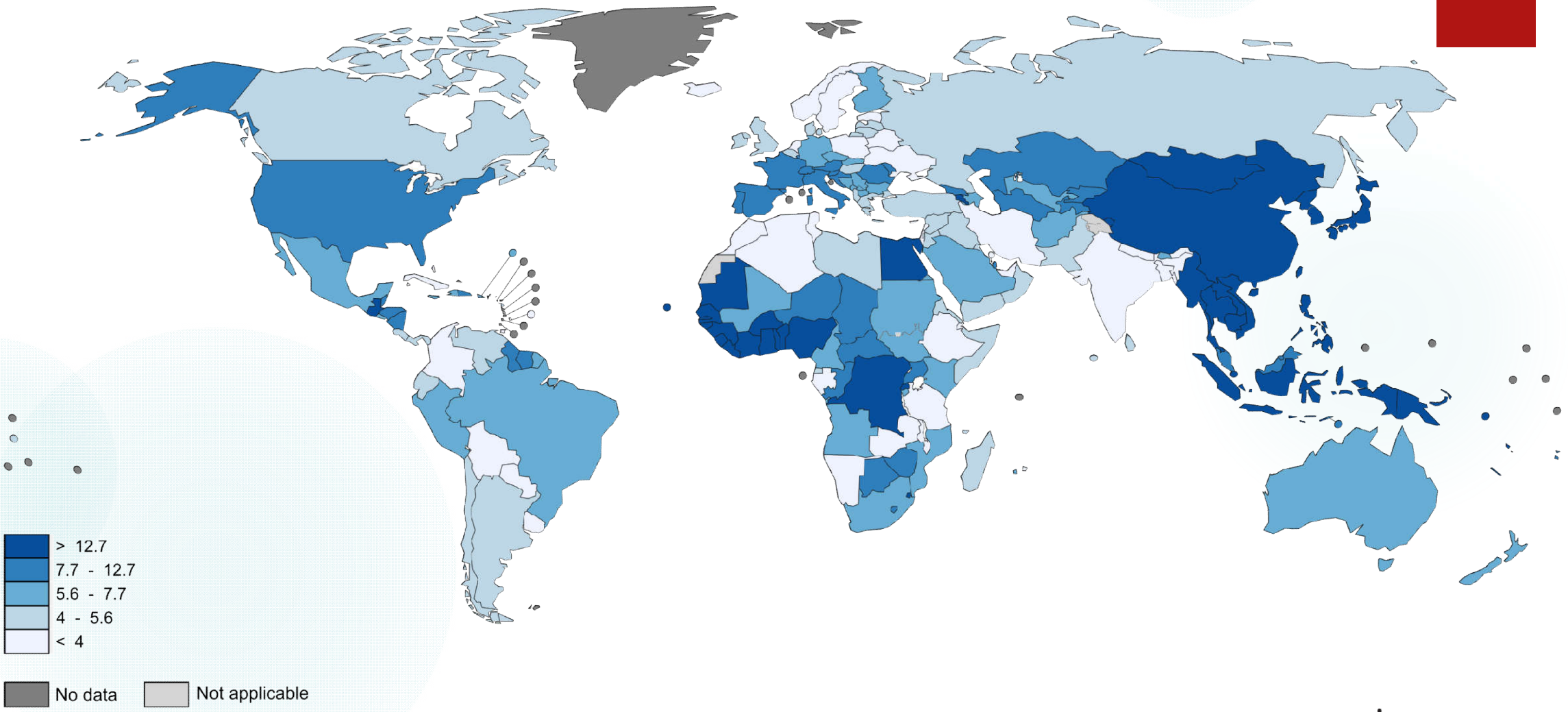
Hepatocellular Carcinoma (HCC)



Epidemiology of HCC:

- Hepatocellular carcinoma (HCC) is the fifth most common cancer in the world and the third most common cause of cancer death.
- The aetiological agent of HCC is known in more than 90% of cases.



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Data source: GLOBOCAN 2012
Map production: IARC
World Health Organization

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Risk factors of HCC:

Known	Possible
Chronic HBV infection.	Alcohol (in absence of cirrhosis).
Chronic hepatitis C with cirrhosis.	Smoking.
Cirrhosis (of any cause): **A) Higher risk with:** 1) Viral cirrhosis. 2) Hemochromatosis. 3) PBC. 4) NASH cirrhosis. **B) Less common with:** 1) Alcoholic cirrhosis. 2) a_1- antitrypsin deficiency. 3) Hereditary tyrosinaemia.	Anabolic or estrogenic steroids.
Carcinogens: A) Aflatoxin (with chronic HBV infection). B) Thorotrast.	

Clinical presentation of HCC:

A) Symptomatic presentation:

- Patients may have any combination of jaundice, ascites, encephalopathy or variceal bleeding.
- Rupture of, or bleeding into an HCC both cause severe abdominal pain, hypotension and/or shock.

Clinical presentation of HCC:

A) Symptomatic presentation:

- HCC may be presented with weight loss, wasting, fatigue, anorexia and other constitutional symptoms that are common to many cancers.
- HCC frequently producing paraneoplastic syndromes. These include hypoglycaemia, hypercalcaemia , thrombocytosis and hypercoagulability.

Clinical presentation of HCC:

B) Asymptomatic presentation:

- Many patients are diagnosed at early stages of disease, due to frequent imaging of the abdomen by ultrasound, used for a variety of abdominal complaints unrelated to liver disease. In addition, many patients known to be at risk for HCC are being diagnosed by the institution of surveillance programs.

Surveillance of HCC:

1) Aim:

- To detect HCC early, at a stage where treatment responses are more durable and cure is more frequently possible.

Surveillance of HCC:

2) Groups for whom surveillance is recommended:

1. All patients with cirrhosis.
2. Chronic hepatitis B carriers (men > 40 years, women > 50 years).
3. Patients with a first-degree relative with HCC.
4. Patients coinfected with hepatitis B and HIV.

Surveillance of HCC:

3) Modalities used for surveillance:

- **Ultrasonography:**

- Ultrasonography is the surveillance test of choice.

- Its recommended to be performed every 6 months (in Egypt every 4 months).

Surveillance of HCC:

3) Modalities used for surveillance:

- **Tumour markers:**

1. a-fetoprotein (AFP).
2. Glycosylated AFP (AFP/L3).
3. Des gamma carboxyprothrombin (DCP) = PIVKA II.
4. Glypican 3.
5. a-fucosidase.

Surveillance of HCC:

3) Modalities used for surveillance:

- **Tumour markers:**

- All these markers are more likely to be elevated in patients with advanced HCC than in patients with early disease, therefore these tests should not be used for HCC surveillance.

Diagnosis of HCC:

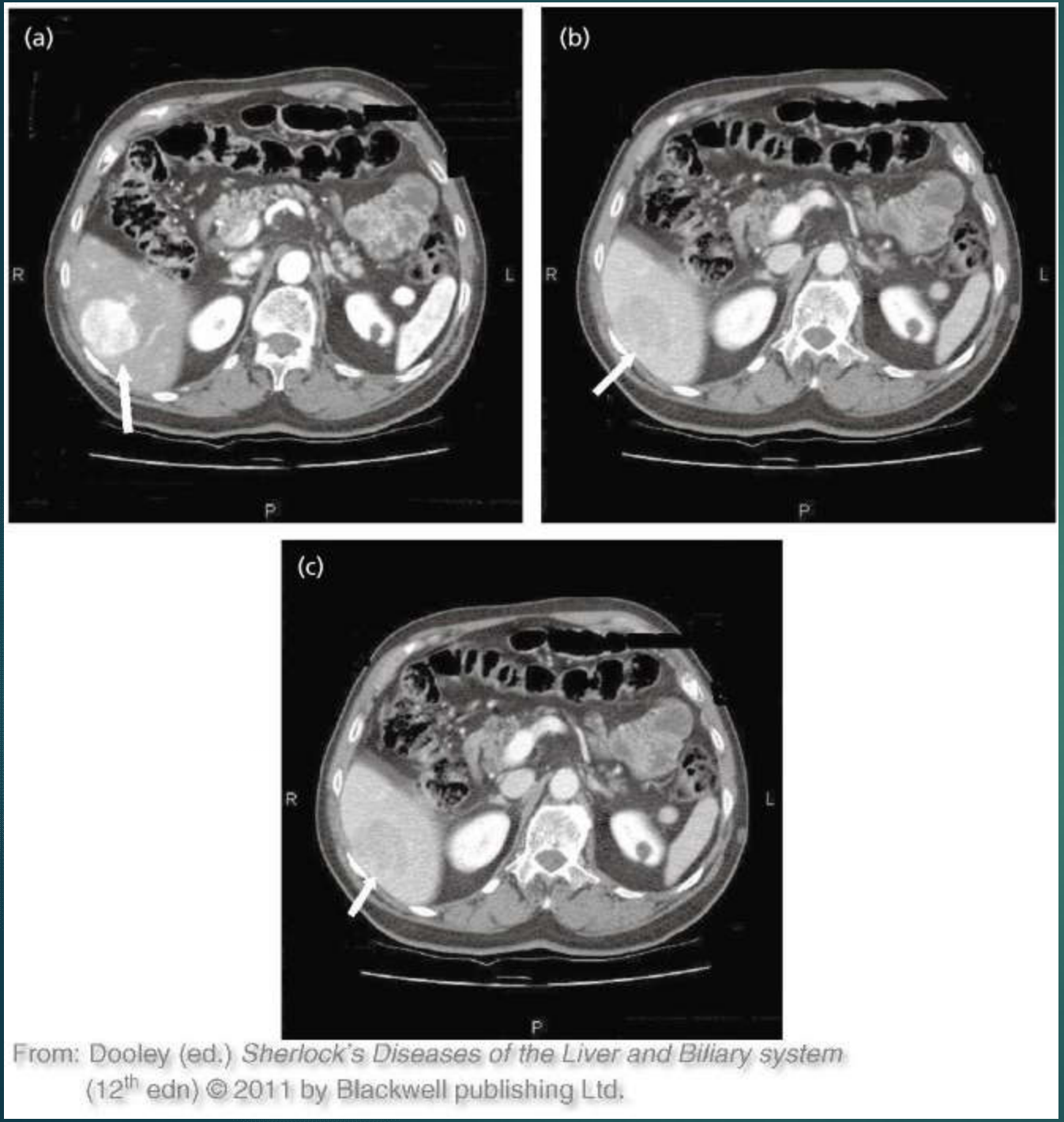
- The tests used to diagnose HCC include:

1. Radiology.
2. AFP.
3. Liver biopsy.

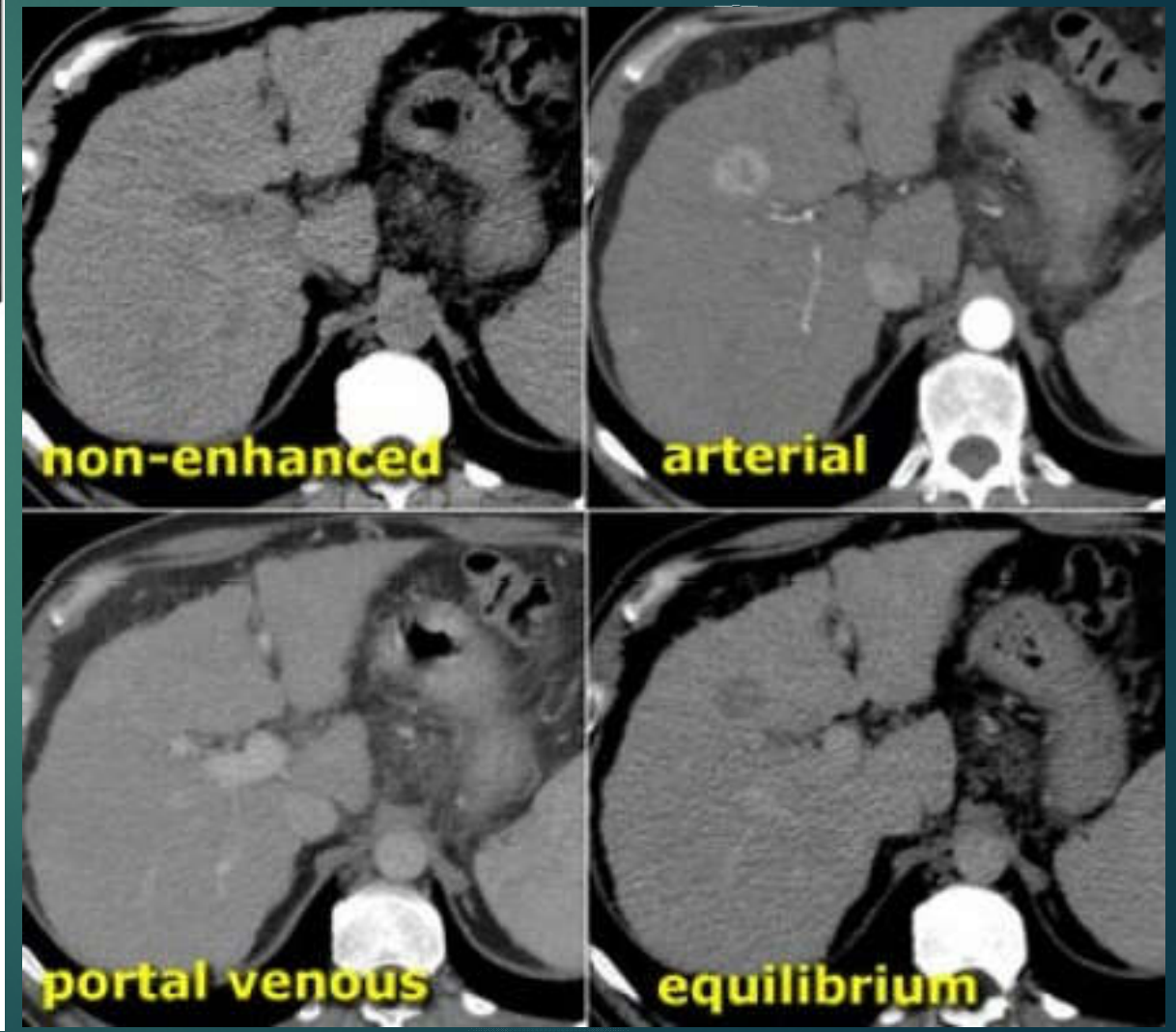
Diagnosis of HCC:

1. Radiology:

- The radiological features of HCC are highly specific.
- HCC exhibits hypervascularity on the arterial phase of a dynamic study (triphasic CT, dynamic MRI or contrast enhanced ultrasound (CEUS)), and washout during the portovenous phase.



From: Dooley (ed.) *Sherlock's Diseases of the Liver and Biliary system* (12th edn) © 2011 by Blackwell publishing Ltd.



Diagnosis of HCC:

2. AFP:

- If the AFP is greater than 200 ng/mL in the setting of a mass in a cirrhotic liver, the likelihood of HCC is greater than 90%.

Diagnosis of HCC:

3. Liver biopsy:

- Biopsy is indicated when radiology is unable to confirm a diagnosis.
- A trucut needle biopsy is performed followed by ablation of the track by ethanol or radiofrequency to reduce the incidence of tumour seeding.

Treatment of HCC:

Curative modalities:

Resection	• Treatment of choice in non-cirrhotic patients.
Liver transplantation	• Solitary lesion < 5 cm **<u>or</u>** up to 3 lesions all < 3 cm. • Absence of vascular invasion.
Local ablation	• Includes **PEI**, **RFA**, **microwave ablation**. • Provide cure for lesions < 2 cm.

Treatment of HCC:

Palliative modalities:

Transarterial chemoembolization (TACE)	• Contraindicated in patients with complete portal vein thrombosis.
Systemic chemotherapy	• **Sorafenib** is the only approved medical therapy for HCC. • It improves survival by 2 months.
Best supportive care	• In Child C patients.

Thank you