General Data

- Gender: female
- Age: 44 y/o
- Occupation: 公務員

Chief complaint

- A huge hepatic tumor was found at 新光 hospital on fourth, December, 2002.

Present illness（Ⅰ）

- This 44 year-old woman denied any other systemic disease before. But she has the family history of hepatocellular carcinoma. On fourth, December, 2002, she visited 新光 hospital for health examination. The abdominal sonography revealed a huge hepatic tumor
- (9 cm in diameter was told), UGI panendoscopy revealed gastric ulcer.

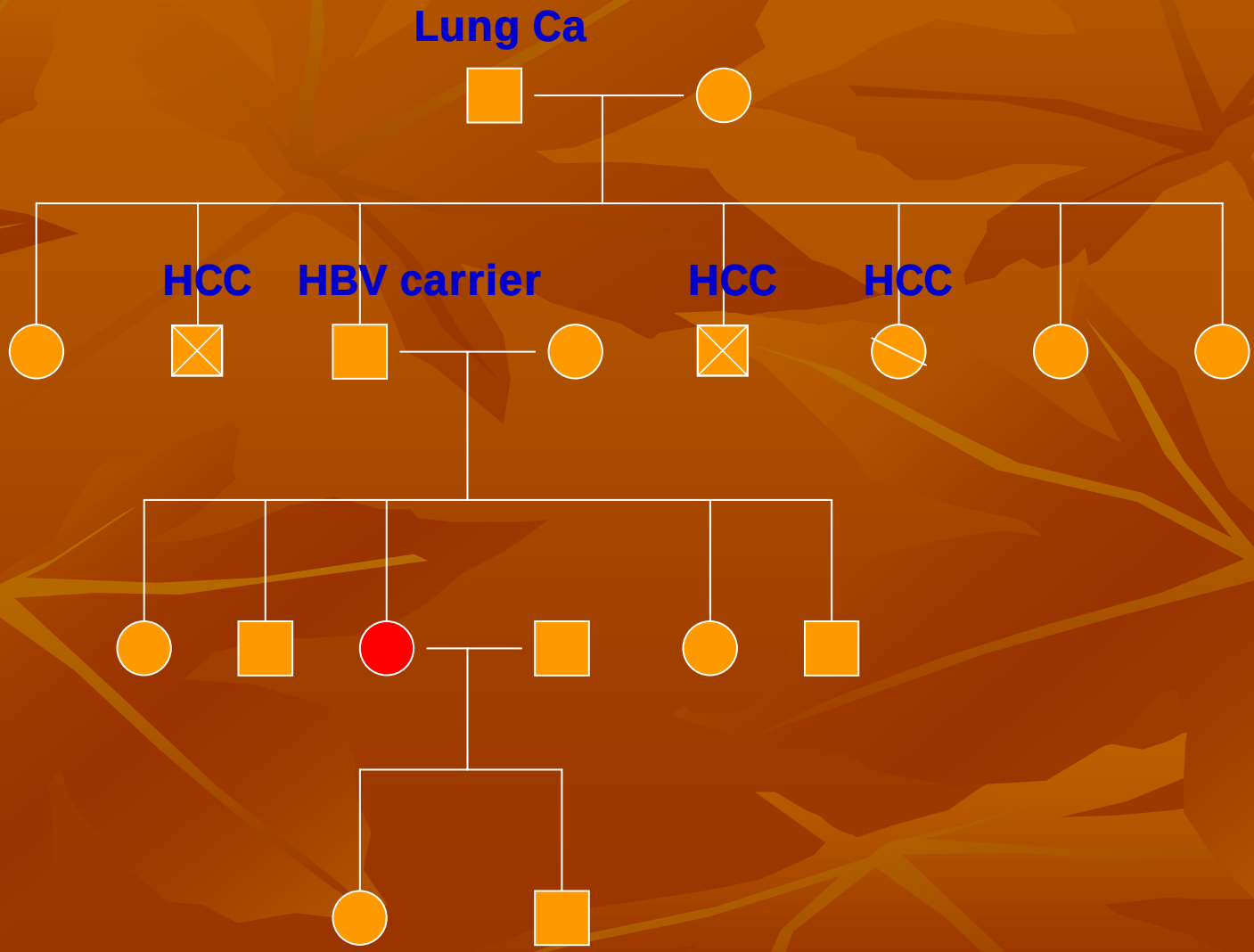
Present illness (Ⅱ)

- Tracing back her history, she complained postprandial abdominal fullness for one month and body weight loss about 4 Kg in the past half a year. She denied having abdominal pain, fatigue, poor appetite, fever, chills, diarrhea, constipation, tarry stool and dizziness.

Past history

- Medical history
  - Peptic ulcer with PPI treatment since 4th,12,2002
- Personal history
  - Smoking: denied
  - Alcohol: denied
  - Allergy: denied

Family history



Physical examination

- Consciousness: E4V5M6
- General appearance: acute ill-looking
- Vital sign
  - BP 106/72 mmHg, PR 72/min
  - BT 36.8℃, RR 18/min
- Abdomen: liver span about 10 cm at RMCL, No palpable mass, No shifting dullness, No superficial vein engorgement
- Extremities: No palmar erythema

Lab. data

- GOT: 17 (0~40 U/L)
- GPT: 12 (0~40 U/L)
- Bilirubin T: 0.4 (0.2~1.2 mg/dl)
- Bilirubin D: 0.2 (0~0.4 mg/dl)
- HBs Ag: negative
- Anti-HCV: negative
- AFP (<12 ng/ml): 2.63
- CEA (<4.6 ng/ml): 0.80

Abdominal sonography

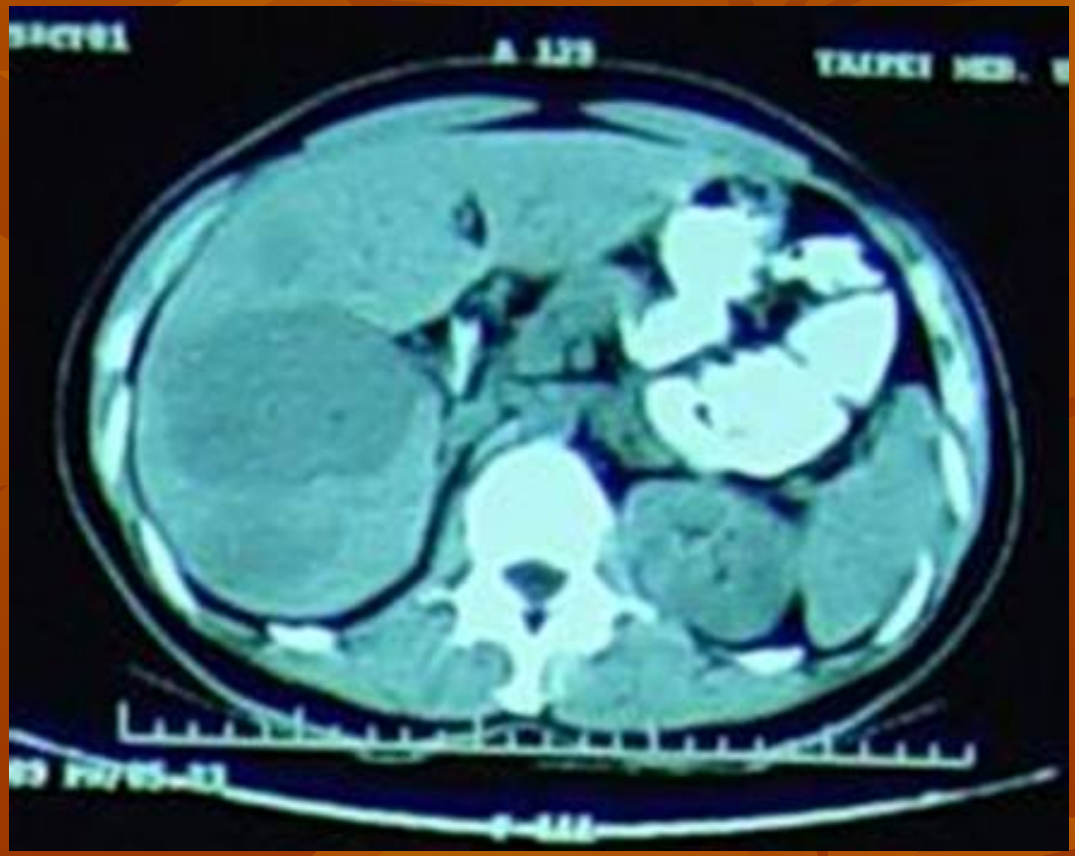
- Hyperechoic mass at posterior segment of right lobe, sizing 10cm x 8cm, with partial central hypoechoic echogenicity.

X-ray

- 2002-12-10
- No definite abnormal radiopaque densities at bilateral lung fields.

Abdominal CT (1)

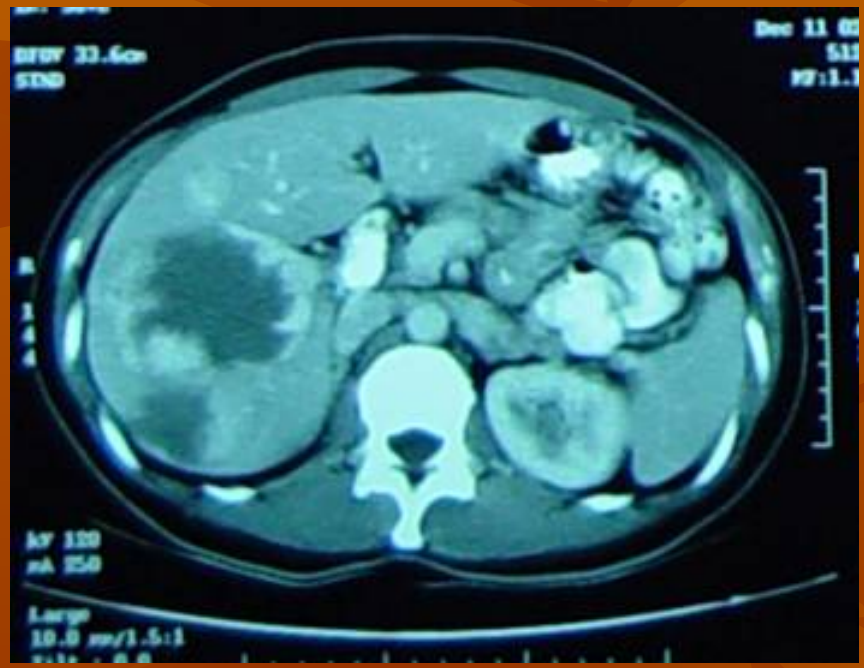
- Pre-constrast phase
- There are multiple hepatic lesion, characteristic hypodense.
- They are mainly at R’t lobe.



Abdominal CT (2)

Arterial phase

Portal venous phase

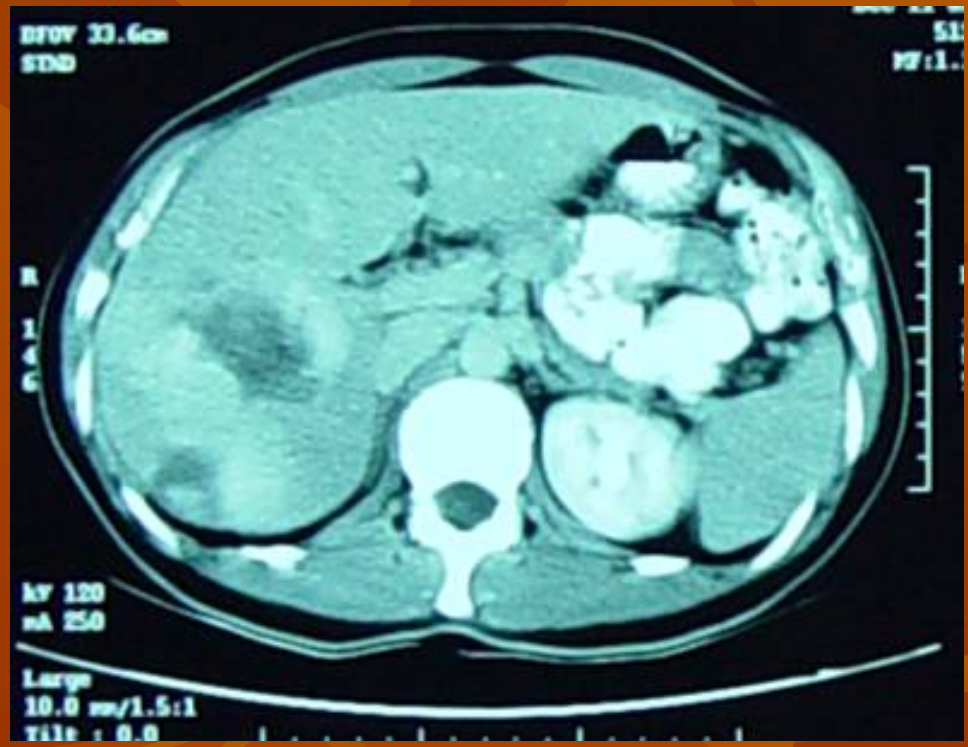


It is characteristic in peripheral enhancement at arterial phase, and fill in in portal venous phase.

Abdominal CT (3)

- There is delay wash out over 5 minutes since injection.

Delay phase

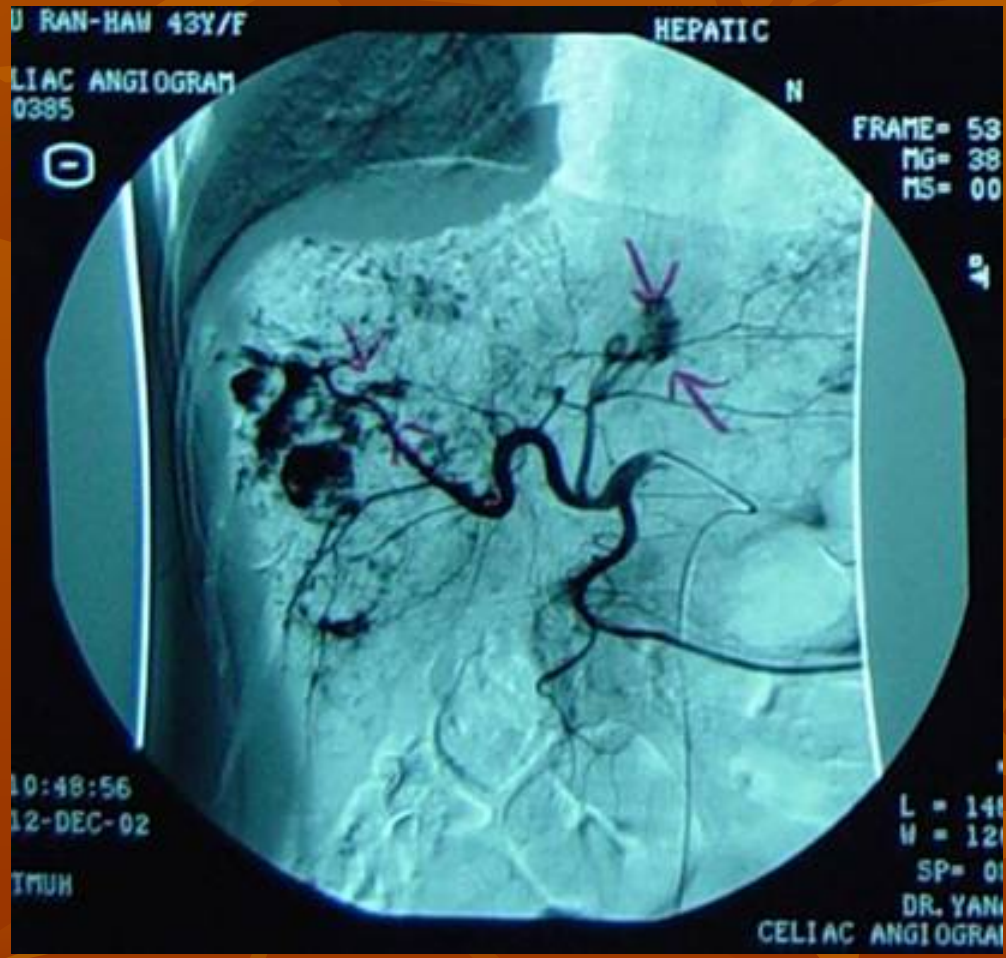


Abdominal CT findings

- 2002-12-12
- Multiple large and small hepatic lesion at R't hepatic lobe.
- It is characteristic hypodense in pre-constrast phase, peripheral enhancement at arterial phase, fill in portal venous phase, and delay wash out.
- The initial impression was hemangioma.

Angiography (1)

- Arterial phase
- There are least four tumor stains noted at S5, S6, S7, and S8 of right lobe liver, size ranging from 2cm to 6cm.
- There is a 1cm tumor at S2 of left lobe noted.



Angiography (2)

- Venous and Delayed phase
- The tumor stains persist on the venous and delayed phases.

Angiography (3)

- Lipiodol injected
- The tumors show spotty like lipiodol retention.

Hepatic angiography finding

- There are multiple tortous feeding arteries from right hepatic artery, and another 1cm tumor at left lobe supplied from left hepatic artery is also found
- All these tumors exhibit peripheral nodular stains on the arterial phase, and the tumor stains persist on the venous and delayed phase
- Hemangiomatosis at both lobes liver is considered

Differential diagnosis

- Hyperechoic lesion
  - Metastatic liver tumor
  - Hemangioma
  - Hepatocellular carcinoma

Metastatic liver tumor

- Notably from carcinoma of the stomach, colon, pancreas, lung and breast
- Metastasis are often multiple, situated peripherally and of variable size.
- US: increased, decreased or mixed echogenicity
- CT: usually lower in density than contrast enhanced surrounding parenchyma
- MRI: having a signal lower than normal liver on a T1-weighted scan and a high signal on a T2-weighted scan.

Haemangioma

- US: homogeneous, rounded, well-circumscribed hyperechoic mass varying in diameter but usually smaller than 3 cm diameter
- CT: Initial – low density lesion

  After contrast - the same or greater degree than the normal liver. Delayed wash out.
- The ultrasound appearance of most haemangioma remains relatively unchanged over many years

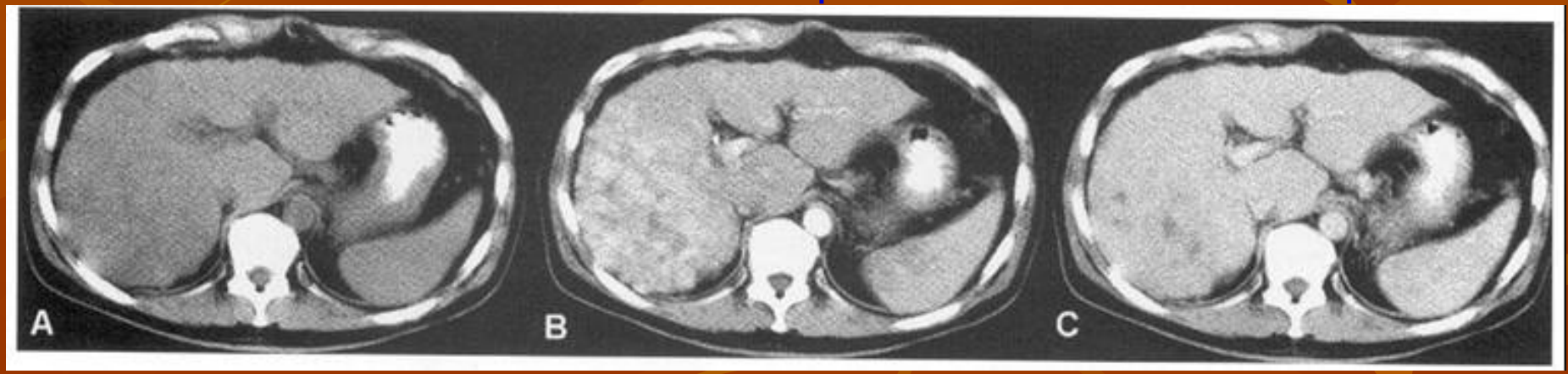
Hepatocellular carcinoma (1)

- HCC is the commonest primary malignant neoplasm of the liver.
- Known predisposing factors:
  - chronic liver disease-usually hepatitis B or C
  - Alcoholic cirrhosis
  - direct carcinogens such as alfatoxin
- More than 70% have increased AFP

Hepatocellular carcinoma (2)

- CT: fully apparent during the transient enhancement of the arterial phase.

Unenhanced arterial phase venous phase



Final diagnosis

- Hemangiomatosis, liver
- Follow up at OPD

Discussion Haemangioma

- Haemangioma of the liver is composed of blood-filled fairly large or tortuous vascular cavities divided by thin, often incomplete, fibrous septa and lined by a single layer of flat endothelium. The blood flow in the vascular spaces is slow and nondirectional which is predisposed to thrombosis.

Epidemiology

- The most common benign tumor of the liver
- Women are predominantly affected (4:1 to 6:1) and often present at a younger age and with larger tumors than men.
- Hemangiomas increase in size with pregnancy or the administration of estrogens

Clinical Presentation (1)

- The great majority of cavernous hemangiomas are small and asymptomatic.
- Upper abdominal pain is the most common complaint and results from partial infarction of the lesion or pressure on adjacent tissues.
- Early satiety, nausea, and vomiting also may occur.

Clinical Presentation (2)

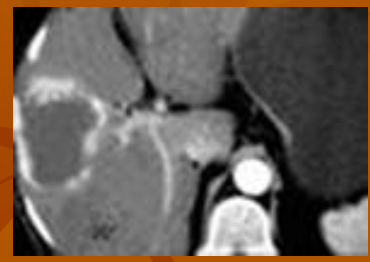
- The only physical finding may be an enlarged liver. Occasionally, an arterial bruit is heard over the tumor.
- Complications are very rare but spontaneous or post-traumatic rupture with hemorrhage in the peritoneal cavity has been reported in 4.5% of patients.

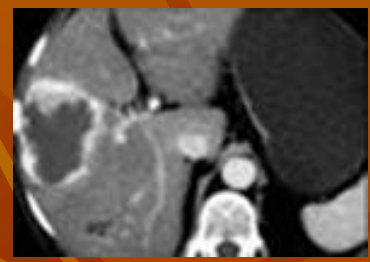
Ultrasound

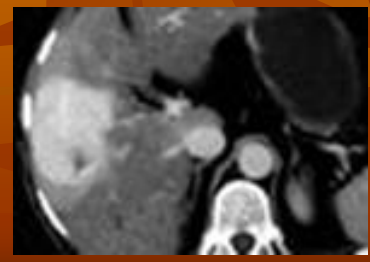
- The distinctive ultrasound features of CH of the liver are homogeneous, rounded, well-circumscribed hyperechoic mass varying in diameter.
- The others may present either a mixed pattern of echogenicity, which is more frequently seen in large hemangiomas. It is related to the variable degree of hemorrhage, thrombosis and fibrosis present in these masses.

Computed tomography (1)

- Early clear enhancement of peripheral vascular lakes is rapidly followed by progressive opacification of the central portions of the hemangioma.
- The time needed to obtain complete or near complete opacification of the tumor is related to its size and histological composition but varies between 4 and 25 min.







Angiography

- The branches of the hepatic artery may be displaced and crowded together or stretched around the lesion. They do, however, taper normally.
- There is early opacification of irregular areas or lakes, and the contrast material persists in these lakes long after arterial emptying.

Scintigraphy

- 99m Tc-labelled red blood cells can be used to visualize haemangiomas.
- On the early scans a defect in the tracer uptake of the liver is visible.
- At delayed scans, obtained 1~2 hours after injection of the radionuclide, an increased radioactivity will be seen at the same site due to the progressive accumulation of the radionuclide in the slow moving blood within the haemangioma.

Pathology

- Haemangiomas are usually solitary, although multiple tumors occur in 10% of patients.
- Reddish purple or bluish masses are seen. The larger lesions may be pedunculated. Cavernous hemangiomas are well circumscribed but seldom encapsulated.
- Microscopically, hemangiomas are composed of multiple vascular channels of varying sizes, lined by a single layer of flat epithelium and supported by fibrous septa. The vascular spaces may contain thrombi.

Treatment

- The great majority of cavernous hemangiomas can be left alone safely.
- A haemangioma that is large, but localized, and the cause of incapacitating symptoms, should be resected.