

# TRANSJUGULAR LIVER BIOPSY

## *Information for patients*

### **Introduction**

- Liver biopsy is crucial in diagnosis and management of some liver diseases.
- Percutaneous liver biopsy is the procedure of choice in most cases. However, this procedure is potentially life threatening and has higher incidence of complications in patients with coagulation abnormalities. Therefore, transjugular liver biopsy is an alternative approach.
- In technically successful transjugular liver biopsy, the liver capsule will not be traumatized, as bleeding from the liver will return to the venous circulation. Hence the risk of intraperitoneal bleeding will be much reduced.
- Hepatic venography, wedged hepatic venous pressure, caval pressure and atrial pressure measurements can be also obtained during this procedure.
- The procedure is performed by a radiologist with special training in interventional radiology in the Department of Radiology under image guidance.

### **Procedure**

- Usually performed as an in-patient basis, under local anaesthesia and aseptic technique.
- The vital signs including your blood pressure, pulse and oxygenation status will be monitored throughout the entire procedure.
- After administration of local anaesthesia, a needle will be inserted into the internal jugular vein (usually the right side, but can be the left side).
- A guide wire is placed through the needle into the vein, through the right atrium and into the inferior vena cava (IVC). There may be transient throbbing sensation in the chest if the guidewire inadvertently touches the endocardium in the heart.
- Through the catheter, the biopsy needle is passed into the central portion of the right hepatic vein and the needle tip is turned into the liver substance, where biopsy is performed.
- During the biopsy, to avoid tearing the liver, the patient should hold his/her breath properly and may feel a quick sharp pain at the right upper quadrant of the abdomen.
- Occasionally, more than one biopsy attempt is made, especially in very cirrhotic liver, until satisfactory tissue core is yielded.
- Right hepatic venogram will be done to see if there is any capsular perforation.
- The catheter is removed. Then the patient will be propped up 30 degrees, manual compression at the puncture site will be applied for about 5 to 10 minutes to stop the wound bleeding.
- After returning to ward, bed rest and propped up 30 degrees for 4 hours will be recommended.
- The entire procedure may last for 30 - 60 minutes.

## **Potential complications**

Overall mortality rate 0.22%

Technically unsuccessful biopsy 4%

Inadequate/fragmented biopsy sample 4%

Major 1.3%

- Capsular perforation leading to hemoperitoneum (bleeding into the abdomen) which may require embolotherapy or surgery
- Cardiac arrhythmias (irregular heart pulsation) requiring treatment

Minor 11%

- Hepatic parenchymal hematoma (blood clot inside the liver substance)
- Pain and blood clot at the puncture site
- Fever
- Carotid artery puncture
- The overall adverse reactions related to iodine-base non-ionic contrast medium is below 0.7%. The mortality due to reaction to non-ionic contrast medium is below 1 in 250000.

## **Disclaimer**

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