



## Enhancement of Accuracy in Liver Biopsy and its Techniques

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### DESCRIPTION

Endoscopic Ultrasound-Guided Liver Biopsy (EUS-LB) is a minimally invasive procedure that has emerged as an alternative to traditional percutaneous liver biopsy for the diagnosis of liver disease. This technique offers several advantages over percutaneous biopsy, including improved safety and diagnostic accuracy, and can be performed in an outpatient setting. It will explore the use of EUS-LB in clinical practice and its potential impact on the diagnosis and management of liver disease [1].

#### EUS-LB technique

EUS-LB involves the use of an endoscope with an attached ultrasound probe to visualize the liver and guide the biopsy needle to the target area. The procedure is typically performed under sedation, and a small incision is made in the stomach or duodenum to access the liver. The biopsy needle is then inserted through the endoscope and advanced into the liver, where a small tissue sample is obtained for analysis [2,3].

One advantage of EUS-LB over percutaneous biopsy is the ability to visualize the liver in real-time, allowing for more precise targeting of the biopsy needle. Additionally, EUS-LB avoids the risk of injury to adjacent structures, such as the lung or gallbladder, which can occur with percutaneous biopsy [4].

#### Diagnostic accuracy of EUS-LB

Several studies have demonstrated the high diagnostic accuracy of EUS-LB for the diagnosis of liver disease. In a meta-analysis of 20 studies involving a total of 1,011 patients, EUS-LB was found to have a pooled sensitivity of 91.5% and a specificity of 100% for the diagnosis of liver disease [5]. This compares favorably to percutaneous biopsy, which has a reported sensitivity ranging from 60% to 90%.

One advantage of EUS-LB over percutaneous biopsy is the ability to obtain tissue samples from multiple sites within the

liver, which can improve diagnostic accuracy. Additionally, EUS-LB can be performed in patients with ascites or coagulopathy, who may not be candidates for percutaneous biopsy [6].

#### Clinical applications of EUS-LB

EUS-LB has a wide range of clinical applications in the diagnosis and management of liver disease. One common use of EUS-LB is in the evaluation of focal liver lesions, such as liver tumors or cysts. EUS-LB can provide a tissue diagnosis of these lesions, which can help guide further management, such as surgical resection or ablation [7].

EUS-LB is also useful in the diagnosis of diffuse liver disease, such as Nonalcoholic Fatty Liver Disease (NAFLD) or autoimmune hepatitis. EUS-LB can provide a more accurate diagnosis than serological tests or imaging studies alone, which can help guide treatment and monitoring of these conditions [8,9].

Finally, EUS-LB has a role in the surveillance of liver transplant recipients, who may be at increased risk of developing recurrent liver disease. EUS-LB can provide a tissue diagnosis of recurrent disease, which can help guide treatment and monitoring of these patients [10-12].

### CONCLUSION

Like all medical procedures, EUS-LB carries a risk of complications. However, the incidence of complications with EUS-LB is low, and the procedure is generally considered safe. The most common complications of EUS-LB include abdominal pain, bleeding, and infection, which occur in less than 1% of cases.

One potential complication of EUS-LB is the risk of bile duct injury, particularly in patients with underlying liver disease or biliary obstruction. However, this risk can be minimized through careful patient selection and procedural technique.

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**Received:** 27-Feb-2023, Manuscript No. JLR-23- 21036; **Editor assigned:** 01-Mar-2023, Pre QC No. JLR-23- 21036 (PQ); **Reviewed:** 15-Mar-2023, QC No JLR-23- 21036; **Revised:** 22-Mar-2023, Manuscript No. JLR-23- 21036 (R); **Published:** 29-Mar-2023, DOI: 10.35248/2167-0889.23.12.170

**Citation:** Hayashi K (2023) Enhancement of Accuracy in Liver Biopsy and its Techniques. J Liver. 12:170.

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