Performing an EUS-guided Liver Biopsy using the Acquire™ 19ga Flexible FNB Device

Boston Scientific
Advancing science for life™

Jose M. Nieto, D.O., AGAF, FACP, FACG, FASGE

Assistant Professor of Medicine, UCF School of Medicine

Consultant Physician, Baptist MD Anderson Cancer Center

Chairman, Advanced Therapeutic Endoscopy Center

Jacksonville, Florida

technique spotlight

Introduction

EUS-guided fine needle liver biopsy (EUS-LB) is an effective, safe technique for diagnosing hepatic parenchymal diseases. Recently, a new fine needle biopsy device (Acquire 19ga Flexible FNB Device) has been introduced by Boston Scientific, which features a Franseen design to improve sample acquisition and specimen architecture. This report summarizes early experience with this device in EUS-LB.

Study Design

Ten consecutive EUS-LB cases were performed using Acquire 19ga Flexible FNB Needles. Information collected included demographics, patient information, pertinent labs, the number of complete portal triads, intact core length, total core length, pathology reports, and complications.

Patient Selection:

- Presented with abnormal liver function test of unclear etiology referred for EUS to evaluate for pancreaticobiliary disease
    - Abnormal appearance of the liver on EUS
    - Hyperechogenicity of the liver suggesting fatty liver
    - Hypoechogenicity of the liver suggesting fibrosis
    - Grading and staging of viral liver disease and metabolic liver disease
- Required sedation
- Needed an EGD for another indication
- Needed right and left lobe liver biopsies
- Had inadequate previous liver biopsy

Performing an EUS-guided Liver Biopsy using the Acquire™ 19ga Flexible FNB Device

Boston Scientific
Advancing science for life™

technique spotlight

Technique

A thorough EUS examination using a linear echoendoscope was performed with Doppler to identify both liver lobes and plan trajectory of the needle. EUS-guided liver biopsy was done using an Acquire 19ga Flexible FNB Device. The operator performed an actuation into the desired lobe under EUS guidance. Each lobe was punctured once, consisting of a long actuation per puncture.

Specimen Preparation

The specimen was expressed by flushing normal saline through the 19ga needle into a formalin histology bottle. Then the majority of the blood contaminated formalin was slowly poured into a cup filled with 4 x 4 sized gauze, leaving the liver core in the formalin histology bottle. The empty histology bottle was replenished with formalin (Figures 1-3), and the specimen was processed as a surgical histology specimen (Figures 4-6).

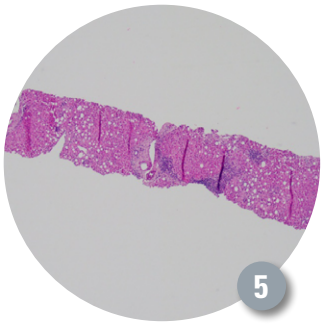
Patient Follow up After EUS-LB

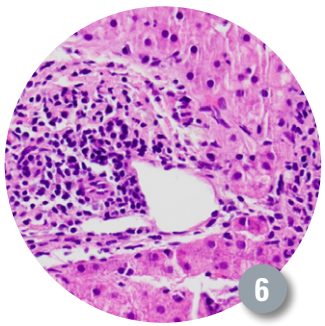
Patients were monitored in the recovery unit for at least 30 minutes, with telephone follow-up within 48 hours post procedure. Antibiotics were not given. Patients were scheduled for office visit 2-4 weeks post-procedure.

Performing an EUS-guided Liver Biopsy using the Acquire™ 19ga Flexible FNB Device

Boston Scientific
Advancing science for life™

technique spotlight





Results

	Case Study Results
Average no. of CPT	28
Mean intact longest length	3.3cm
Mean total specimen length	8cm
Mean no. of cores	6.9
Diagnostic rate	100%

Ten patients (male=60%) underwent EUS-LB using the Acquire™ 19ga Flexible FNB Device. The etiology of the patients includes alcoholism (50%) and chronic viral hepatitis (20%). The average BMI was 29.7. The average number of complete portal triads (CPT) was 28, with the mean intact longest length of 3.3cm, mean total specimen length of 8cm, and mean number of cores of 6.9. The diagnostic rate was 100%: 60% of nonalcoholic steatohepatitis (NASH), 20% viral hepatitis and 20% alcoholic hepatitis. Pain post procedure was noted in 3 patients (30%) and the treatment response was 100%. There were no complications.

Discussion

This case series shows that EUS-LB using the Acquire 19ga Flexible FNB Device obtains adequate specimens length and number of CPT. Based on guidelines from the American Association for the Study of Liver Disease (AASLD), European Association for the Study of the Liver (EASL), and Asian Pacific Association for the Study of the Livery (APASL), the recommended number of CPT is 10-11 or more, and the recommended length of specimen is 1.5-2.0cm. EUS-LB using the Acquire 19ga Flexible FNB Device meets both criteria 100% with 0% complications rate observed in these cases. Post-operative pain was relieved in 100% of the patients in these cases. A multicenter prospective trial is needed to evaluate

Boston Scientific
Advancing science for life™

technique spotlight

these results.

	AASLD	EASL	APASL
Recommended length (cm)	2.0	1.5	1.5
Recommended CPT	≥11	N/A	≥10
Case study achieving recommended length	100%	100%	100%
Case study achieving at least one recommendation	100%	100%	100%

AASLD, EASL and APASL guideline source: Nieto, Jose, et al. "EUS-Guided Fine-Needle Core Liver Biopsy Sampling Using A Novel 19-Gauge Needle with Modified 1-Pass, 1 Actuation Wet Suction Technique." *Gastrointestinal Endoscopy*, 2017, doi:10.1016/j.gie.2017.05.013.

All images and data provided courtesy of Dr. Nieto.

Boston Scientific Corporation
300 Boston Scientific Way
Marlborough, MA 01752-1234
www.bostonscientific.com/gastro
www.EndoSuite.com

ENDO-491106-AA August 2017