Comparison of two techniques using EUS guided liver biopsies via 19g core biopsy needle to obtain optimal core specimen in benign disease

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Background and Hypothesis:
Endoscopic ultrasound (EUS) guided fine-needle biopsy (FNB) to obtain core liver specimen is shown to be effective and safe. However, prospective data is limited regarding EUS-FNB in non-malignant liver disease. This study evaluates two EUS-FNB techniques with the hypothesis that the modified wet suction (MWS) technique will produce greater pathological yield than the slow pull (SP) technique in patients with non-malignant liver disease.

Experimental Design or Project Methods:
In this prospective, randomized controlled trial we are evaluating efficacy and safety of EUS-FNB techniques (MWS versus SP) in patients with initial indication for an upper endoscopy plus need for a liver biopsy to assess non-malignant disease. The primary outcome is pathological yield defined as number of complete portal tracts (CPTs), specimen length, and fragmentation. Secondary outcomes include pathological yield between two specimen processing techniques, pathological yield between left versus right liver lobe biopsy, time for biopsy technique, and complications.

Results:
For this interim analysis, 8 patients (5 received MWS and 3 received SP) out of a projected total of 360 patients are enrolled. Independent t-test analysis reveals no statistical difference between CPTs (P=0.56), specimen length (P=0.12), and fragmentation (P=0.16). No differences are found between any secondary outcomes, and there have been no biopsy-related complications.

Conclusion and Potential Impact:
This underpowered interim analysis reveals no statistical difference in primary or secondary outcomes between MWS versus SP technique. The current results for both groups are consistent with specimen adequacy criteria determined by American Association for the Study of Liver Disease.