

Non-alcoholic steatohepatitis (NASH) Elastography versus Liver Biopsy

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Non-alcoholic steatohepatitis (NASH), defined as hepatic fat accumulation (steatosis) with inflammation, hepatocyte injury, and often fibrosis, is increasing in incidence alongside obesity and diabetes. Untreated NASH leads to cirrhosis, which emphasizes the importance of early diagnosis. Historically, diagnosis has relied on liver biopsy; however, elastography is a noninvasive means of identifying NASH characteristics. A single institution retrospective correlation of biopsies and elastography between 3/23/16 and 3/9/21 on patients with NASH was completed. Those on NASH studies and those with incomplete records were excluded. Typical demographic and clinicopathologic data were collected to include imaging and histology findings. Overall, 25 patients were included in the study. Of these patients, 88% were white, and 60% were female (40% male). The average age of our cohort was 56.6 (35-73). Mean BMI was 31.80 (24.06-42.20), and 60% of patients were obese or morbidly obese; 72% had diabetes. Regarding elastography, while none of the imaging definitively noted steatosis or inflammation, 80% revealed fibrosis. For histologic analysis, steatosis was identified in 88% of specimens. Inflammation was apparent in 92% of specimens, and 96% of histology evaluated fibrosis. Overall, 80% of patients had fibrosis recognized by both histology and elastography, 16% by histology but not elastography, and 0% by elastography but not histology; 4% had no fibrosis on either methodology. These data reveal that histology more readily confirmed fibrotic liver tissue, while elastography posed difficulty differentiating fibrosis and biologic confounders, supporting histology as the gold standard for diagnosing NASH.