



Understanding NAFLD and NASH in the Non-Liver Specialist Setting

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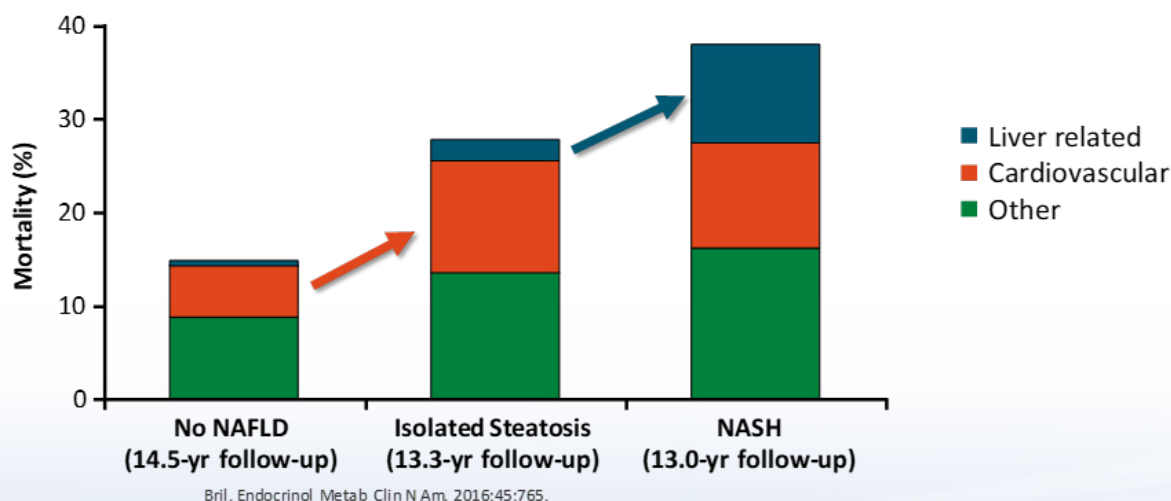
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Understanding NAFLD and NASH in the Non-Liver Specialist Setting

As healthcare practitioners (HCPs) continue to serve a growing number of individuals who are obese and have Type 2 diabetes mellitus (T2DM)—with data showing that no more than 20% of people with diabetes ever see an endocrinologist—there is a need for increased vigilance at the point of care to address the associated onset and prevalence of nonalcoholic fatty liver disease (NAFLD).¹ Diabetes remains a significant contributor to advancing fibrosis and NAFLD, a condition in which excess fat is stored in the liver and is more common in people who have obesity and T2DM.²

Researchers have found NAFLD in 40 to 80% of people who have T2DM and in 30 to 90% of people who are obese. In research that tested for NAFLD in people who were severely obese and undergoing bariatric surgery, more than 90% of the people studied had NAFLD.³

HCPs and specialists alike are called upon to do better at managing these patients with diabetes: data from Centers for Disease Control put the average hemoglobin A1c (A1C) of people with diabetes in the United States as high as 9%, which is clearly unacceptable.⁴



Risks Associated with NAFLD

Up to 30% of adults have NAFLD, of which 79% have normal aminotransferase levels. Nonalcoholic steatohepatitis (NASH), the more severe form of the disease, increases the risk of cirrhosis and is now the most rapidly growing cause of hepatocellular carcinoma among U.S. patients listed for liver transplantation.⁵

People with NAFLD were found to have higher rates of cancer, with the greatest increase observed for gastrointestinal cancers, according to findings presented at the 2018 AASLD Liver Meeting.

These findings suggest that NAFLD may be a key driver of the increased risk of cancer associated with obesity.⁶

Traditionally, viral hepatitis was assumed to be the primary factor responsible for rising incidence of liver cancer in the United States. Data from a recent study suggest that in patients 68 and greater, metabolic disease was currently the highest and fastest growing contributor to increasing cancer rates. Further research is needed to understand the impact of metabolic disease on liver cancer rates across the 1945-1965 birth cohort.⁷

Risk of Cardiovascular Disease and T2DM

Studies also suggest that people with NAFLD have a greater chance of developing cardiovascular disease, the most common cause of death in people who have NAFLD.⁸ This means that follow-up of patients with NAFLD may be indicated to prevent major vascular events. Most striking is that simple steatosis will increase risk of cardiovascular disease mortality by two times over a shorter period than those with T2DM alone. Patients with prediabetes and T2DM are of particular concern with NAFLD.⁹ In fact, one study found that patients with elevated fat were at a twofold increased risk of developing T2DM.¹⁰

Risks of Liver Complications

NAFLD tends to be diagnosed at an older age and, due to its silent course, liver failure is often the first presentation of NAFLD-related cirrhosis in the liver transplant setting (38-45%). Once cirrhosis decompensates, patients with NAFLD have a rapidly progressive hepatic deterioration leading to similar overall and liver-related mortality as cirrhosis of other etiologies.¹¹

Quick, Painless Assessment with FibroScan®

HCPs can help patients adopt preventive lifestyle changes and incorporate screening technology into their practice to non-invasively and quickly make a quantitative assessment of liver stiffness and fat at the point of care. FibroScan®, a painless, two-minute screening, can be utilized as part of an overall workup to help diagnose NAFLD early on.¹² It can be performed in the doctor's office as part of an annual exam and is covered by Medicare, Medicaid and most insurance plans.

Direct physical assessment of liver screening and risk stratification may be applicable to patients of all ages that access care from an HCP. According to a study published online in JAMA Network Open, from 2000 to 2016, there was a shift of the obesity-associated cancer (OAC) burden to younger age groups. Researchers point to important public health implications of these findings and suggest that interventions to reduce obesity and implement individualized screening programs are needed.¹³

While T2DM is associated with increased hospital admissions, the age-adjusted readmission rate for people with T2DM and NAFLD is 5.36 versus those without NAFLD, with women having higher readmission rates than men.¹⁴



To Screen or Not to Screen

The American Diabetes Association (ADA) guidelines recommend screening patients with T2DM for NAFLD. These patients have a higher all-cause mortality than those without NAFLD. ADA Standards of Medical Care recommends that patients with T2DM or prediabetes and elevated liver enzymes (alanine aminotransferase) or fatty liver on ultrasound should be evaluated for presence of NASH and liver fibrosis.

They also recommend noninvasive tests, such as elastography or fibrosis biomarkers, to assess risk of fibrosis, but referral to a liver specialist and liver biopsy may be required for definitive diagnosis. Interventions that improve metabolic abnormalities in patients with diabetes (weight loss, glycemic control and treatment with specific drugs for hyperglycemia or dyslipidemia) are also beneficial for fatty liver disease.¹⁵

While the American Association for the Study of Liver Diseases (AASLD) does not currently recommend routine screening for NAFLD or NASH, it does recommend FibroScan® as part of an overall approach to identifying patients with NAFLD or NASH. It suggests there should be a high index of suspicion for NAFLD and NASH in patients with T2DM. Clinical decision aids, such as NAFLD fibrosis score (NFS), fibrosis-4 index (FIB-4) or vibration controlled transient elastography (VCTE), can be used to identify those at low or high risk for advanced fibrosis (bridging fibrosis or cirrhosis).¹⁶

The most effective treatment for NAFLD is lifestyle modification, most notably diet and exercise.¹⁷ Pharmacological treatments are in development and expected to reach the market beginning in late 2020. The NAFLD pharmacological treatment market is forecast to reach \$21- \$35 billion.¹⁸

Fortunately, NAFLD can be reversed through diet and lifestyle modification if caught in the early stages, potentially avoiding progression to NASH or fibrosis. For HCPs, educating patients and adopting innovative technology are the first steps toward battling the liver disease epidemic and meeting the “Triple Aim”: improving the patient experience of care (including quality and satisfaction); improving the health of populations; and reducing the per capita cost of health care.



Educating Patients

Patients need to understand that, as the second-largest organ in the body, the liver performs about 500 important jobs—removing toxins, clearing medication from the body and metabolizing food.¹⁹ It also adjusts cholesterol levels, stores and regulates glucose levels, builds proteins and makes bile—which aids the absorption of fats—stores sugar for when it's needed and regulates hormone levels.

Whether a patient is low risk for liver disease or is overweight, obese, has diabetes or is concerned about their liver health, HCPs should encourage them to follow a healthy lifestyle to help maintain liver health or reverse liver damage from progressing. **In many patients, a 5 to 7% decrease in body weight can be associated with a reduction in liver fat and inflammation.**²⁰

Patients also need to know that NAFLD affects people who aren't heavy drinkers. In fact, it is caused primarily by metabolism and obesity—sedentary lifestyle and unhealthy diet—and may not exhibit clear symptoms. Obesity often causes severe damage to the body and can cause insulin resistance by generating too much blood sugar and increasing free fatty acids that circulate in the blood and liver cells, which is common in those with T2DM. While most patients with excess liver fat will not have progressive liver disease, those who do face an increase in the risk of NAFLD, liver fibrosis, cirrhosis or, ultimately, liver cancer.

Given the rise in adult obesity rates in the country, more Americans will begin to experience liver damage and associated health issues. In fact, obesity rates are seen across America, with states having rates ranging from 25 to 38% of the adult population, with the highest being in West Virginia and the lowest in Colorado, according to the most recent Behavioral Risk Factor Surveillance System (BRFSS) data.²¹

Share This Success Story with Patients

A female patient, 52, had elevated liver enzymes, T2DM, Body Mass Index (BMI) of about 35 and high cholesterol when she was referred to a specialist by her HCP for abdominal discomfort and elevated liver enzymes. Her FibroScan® score, a rapid and painless way to screen for liver disease, was in the intermediate range. The specialist performed a liver biopsy and discovered she had early stage liver fibrosis. The patient asked how she could improve her health to avoid a 25% chance of getting cirrhosis in the future. Her doctor told her to avoid soda, fruit juice and all packaged and processed foods. She developed a walking program and attended Weight Watchers. Over the course of a year, she lost a significant amount of weight and got her BMI down closer to 26 to 27 -- almost a 50 lb. weight loss. Her liver enzymes normalized, and her fibrosis was reversed.

Prevention: The First Step for Patients

HCPs can offer simple advice, such as maintaining a healthy lifestyle through diet and exercise, including walking and weight-bearing exercise to burn more calories and improve liver function.²² Even as little as a 3% weight loss can improve insulin resistance and metabolism; 5 to 7% weight loss can improve fatty liver disease and inflammation; and as high as 10% weight loss can improve inflammation and scarring in the liver. Patients should also avoid alcohol, particularly those with pre-existing liver disease.

Healthy Diet

The typical high-fat, high-sugar “Western” diet has been found to be the source of liver inflammation.²³ Therefore, it's important for patients to avoid high calorie-meals, saturated fat, excess sugars, hydrogenated fats, fast foods, packaged and processed foods and refined carbohydrates, such as white bread, white rice and regular pasta. Whole foods, higher protein and lower carb diets are the best diet for liver and overall health.

Key Risk Factors

If a patient has a very low FibroScan® reading of under five or six they are low risk, but if a patient has a FibroScan® reading above 10, coupled with risk factors for advanced hepatic fibrosis, is older than 50, has diabetes, or three or more risk factors and metabolic syndrome, they should see a liver specialist.



Standard Approaches May Prove Ineffective

While most patients are asymptomatic, NAFLD is sometimes associated with fatigue, weakness, loss of appetite, nausea, weight loss and abdominal pain. Increased liver enzymes may be associated with the disease but are not always a sign of liver disease. Screening and early detection of disease in high risk patients can help to prevent more serious conditions, such as end-stage liver disease or liver cancer.

HCPs can do a blood test to look for liver enzymes released after a liver cell dies, which may suggest inflammation. **But today's standard approach is extracting a liver tissue sample (percutaneous liver biopsy), which allows doctors to see signs of scar tissue and ballooning under a microscope to determine how far the disease has progressed.** This method, however, has been brought into question not only for its invasiveness, but also for its inaccuracy. In fact, scientists estimate that more than 30% of biopsy diagnoses may be wrong.²⁴

FibroScan®: Painless Non-Invasive Tool with Rapid Results for Liver Assessment

FibroScan® is an FDA-cleared technology that quantitatively estimates liver stiffness with patented VCTE™ and liver fat with CAP™. Fibroscan® is designed as a portable, point-of-care tool that can be operated by a medical assistant and interpreted by the HCP. It is supported by over 2,000 peer-reviewed publications and is the reference for non-invasive assessment of liver health in most of the international liver guidelines.

Consistent with the FDA Instructions for Use (IFU) and guidelines, when combined with blood biomarkers, FibroScan®-based scores can be a cost-effective tool in primary care to risk-stratify patients with NASH and advancing fibrosis for further specialist workup.

An examination with FibroScan® should be performed on a patient who has not eaten in at least three hours and is not indicated for use in pregnant women or individuals who have an implantable electronic device, such as a pacemaker.

Research Supports FibroScan®

An interim look at an ongoing study of 10,000 patients with no history of liver disease was conducted in community-based endoscopy centers.

Using FibroScan® alone, 13% of patients were identified with elevated liver stiffness and only 43% of patients evaluated appeared to have what is considered normal levels of liver stiffness and fat, while the remainder had some form of liver abnormality, ranging from elevated liver fat to liver fibrosis.

While definitive diagnosis is needed, this analysis of the first 5,000 patients suggests a significant rate of undiagnosed steatosis and steatohepatitis liver disease in the population studied. This high prevalence of disease, a dramatic rise from observations made in previous years, was indicative of the critical need for ongoing assessment and disease education.²⁵

This emphasizes the importance of identifying asymptomatic patients who may be at risk for advancing disease for earlier intervention, while the high prevalence of disease—which rose drastically from previous years—demonstrated the critical need for ongoing assessment.



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Echosens, the developer of FibroScan®, is an innovative high-technology company offering a full range of products and services supporting physicians in their assessment and management of patients with chronic liver diseases. FibroScan® is supported by over 2,000 peer reviewed publications.

<https://echosens.us/learn-more/>

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