
Dakota Diabetes Coalition is proud to offer this column on diabetes and related concerns every other Friday.



Dr. Johnson is a family practice doctor in Grand Forks with a special interest in diabetes -- and a special knack for writing. As a member of the Dakota Diabetes Coalition, he has generously made himself available to answer questions through our listserv. If you have comments, or questions for Dr. Johnson to address in future columns, please contact gailhand@q.com



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Fat is everywhere...

Most common cause of liver disease? Diabetes!

Liver disease in diabetes is relatively common, but underappreciated by many clinicians. While many practitioners are aware that their diabetes patients have liver disease, they do not attribute it to diabetes.

Why? For one thing, there is no formal screening guideline for fatty liver disease in diabetes patients. And, the very medications that might help are stopped at the first sign of liver dysfunction. These meds, such as metformin and statins, are often wrongly blamed for abnormal liver tests, when really, the results are from pre-existing fatty liver.

Insulin resistance syndromes, such as pre-diabetes and type 2 diabetes, are known causes of non-alcoholic fatty liver disease (NAFLD) and non-alcoholic steatohepatitis (NASH). It is an important cause of death in type 2 diabetes, with estimates ranging from 4 to 12%. In the Verona Diabetes Study, **fatty liver was more common than cardiovascular disease** in type 2 diabetes patients.

The spectrum of fatty liver diseases in diabetes includes **frank liver disease, fatty liver diseases and outright cirrhosis. Liver enzyme tests that may reveal these conditions include** ALT, AST, alkaline phosphatase and bilirubin. Fatty liver disease is the most common **cause of elevated ALT**. Diabetes is currently thought to be the most common cause of liver disease in the United States. Additionally, type 2 diabetes patients are at somewhat **higher risk for Hepatitis C**.

Screening for liver disease in diabetes is often done inadvertently, when liver enzymes are monitored after a patient is put on statins, metformin or TZD's. Occasionally, liver test abnormalities are attributed to the medications, when actually fatty liver disease was already present. If abnormal liver tests **persist or get worse, these medications may need to be stopped, but further evaluation is warranted**. Ultrasound, CT, or MRI can give good indications of whether problems are caused by fatty liver disease or if another process is underway, such as tumor or malignancy. Liver biopsy should be considered for definitive diagnosis, but it may not be necessary in every case. Additionally, due to the risk of Hepatitis C in patients with type 2 diabetes, **screening for Hepatitis C** should be performed as well.

Patients with fatty liver disease may be managed conservatively, with recommendations similar to those we make for lifestyle changes in people with pre-diabetes, obesity or diabetes. Although the FDA does not specifically indicate any medications for treating fatty liver disease, it appears that metformin, statins, other anti-lipid agents, TZD's, insulin, and GLP-1 analogs (Byetta) may improve fatty liver disease, but of course, close monitoring of liver function is critical. Bariatric surgery also often improves fatty liver disease. Some patients will need specialty referral, typically to gastroenterology, if liver functions do not improve or get worse, or if there is evidence that the disease is advancing. Additionally, patients with evidence of cirrhosis will require a specialty referral.

Liver disease remains common in diabetes and awareness of this fact remains low. So, screen your patients appropriately, make the diagnosis, and follow through with effective treatment plans, just as you would for other diabetes-related complications.

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[Liver Disease and Diabetes, Dr. Johnson's Column #50, July 24, 2009](#)