

Fatty liver disease: A current perspective

Dr Robert Goldin, Imperial College

Summary

1. Non-alcoholic fatty liver disease (NAFLD) is emerging as one of the most important causes of significant liver disease with a prevalence of up to 1/3 in the general population; non-alcoholic steato-hepatitis (NASH) is estimated to be seen in 1/3 of these. Evidence for this comes mainly from biochemical and imaging studies.
2. The full natural history of NAFLD is now recognised as including cirrhosis, including most cases of cryptogenic cirrhosis, and liver cell cancer. It is also associated with other liver pathologies such as multiple hepatic adenomas.
3. The defining histological features of NASH have been refined and a generally accepted scoring system developed. It has also come to be appreciated that the histological pattern in children includes a primarily portal based disease.
4. Much has been learnt about the role of intermediate filaments in liver disease and especially about the pathogenesis of Mallory-Denk bodies. It is, however, still not clear whether they rather have a bystander, protective or injury promoting function
5. A large number of models of NAFLD in mice have been developed and these are contributing considerably to our knowledge, and to a lesser extent, understanding, of this condition.
6. A number of drug trials have been carried out on patients with NAFLD and histology has been an important endpoint for these. These studies have contributed to our understanding of the natural history of this condition.
7. The presence of fatty change, due to either ALD or NAFLD, is an important co-factor in other types of liver disease, such as viral hepatitis, and is associated with more rapidly progressive disease.

References

1. Yeh MM, Brunt EM. Pathology of nonalcoholic fatty liver disease. *Am J Clin Pathol.* 2007 Nov;128(5):837-47.
2. Kashi MR, Torres DM, Harrison SA. Current and emerging therapies in nonalcoholic fatty liver disease. *Semin Liver Dis.* 2008 Nov;28(4):396-406.
3. Jou J, Choi SS, Diehl AM. Mechanisms of disease progression in nonalcoholic fatty liver disease. *Semin Liver Dis.* 2008 Nov;28(4):370-9.
4. Clark JM. The epidemiology of nonalcoholic fatty liver disease in adults. *J Clin Gastroenterol.* 2006 Mar;40 Suppl 1:S5-10.
5. de Alwis NM, Day CP. Non-alcoholic fatty liver disease: the mist gradually clears. *J Hepatol.* 2008;48 Suppl 1:S104-12.
6. Strnad P, Zatloukal K, Stumptner C, Kulaksiz H, Denk H. Mallory-Denk-bodies: Lessons from keratin-containing hepatic inclusion bodies. *Biochim Biophys Acta.* 2008
7. Anstee QM, Goldin RD. Mouse models in non-alcoholic fatty liver disease and steatohepatitis research. *Int J Exp Pathol.* 2006 Feb;87(1):1-16.
8. van der Poorten D, George J. Disease-specific mechanisms of fibrosis: hepatitis C virus and nonalcoholic steatohepatitis. *Clin Liver Dis.* 2008 Nov;12(4):805-24