

Cost-effectiveness of non-invasive methods for assessment and monitoring of liver fibrosis and cirrhosis in patients with chronic liver disease: systematic review and economic evaluation

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Plain English summary

Methods for assessment and monitoring of liver fibrosis and cirrhosis

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Liver has various functions including elimination of drugs and toxins. However, repeated insults to the liver including alcohol and viral infections can lead to loss of its structure and function. Fibrosis (slight) and cirrhosis (severe) are different degrees of loss of structure and function of the liver.

At present, there is no curative treatment for cirrhosis other than liver transplantation. Early diagnosis and treatment of fibrosis will improve survival and quality of life and reduce the need for liver transplantation. Traditionally, fibrosis is diagnosed by taking a bit of the liver using a wide-bore needle (biopsy); however, this is invasive and can cause serious complications. This study assessed alternative tests which are not invasive to determine whether or not they can replace liver biopsy and offer value for money.

A review of literature on how accurately the non-invasive tests are for the diagnosis of fibrosis and cirrhosis was carried out. We used this information to conduct an economic analysis to estimate the implications for NHS resources (including costs of testing and long-term costs of treating patients) and the health outcomes associated with each non-invasive test.

We found that the economic benefits vary according to the cause of the liver disease. In some cases, the non-invasive tests appeared best value for money (some types of hepatitis B); in others, biopsy was best (alcoholic cirrhosis); and in some cases, starting treatment early, without the need for testing, produced the highest health gain for a given cost (hepatitis C and some circumstances for hepatitis B).

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