

Liver biopsy in the era of elastography

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Liver biopsy is an old and useful method for the assessment of severity in chronic hepatitis. It can be performed percutaneously or transjugular; echo-assisted, echo-guided or blindly. Echo-guided liver biopsy is currently the “golden standard” for the evaluation of liver fibrosis, but this method is also very useful to evaluate necro-inflammation (activity), and it can be a valuable tool for assessing the etiology of a chronic liver disease (in alcoholic hepatitis, nonalcoholic liver disease, cholestatic liver disease, iron deposits in the liver, etc). It is a relatively safe method: mild complications may appear, but the rate of severe complications or the death rate is not totally null. On the other hand, some published data has shown that this “golden standard” is not really a perfect one [1].

In the last years, hepatic elastography was developed as a new method for the evaluation of liver stiffness as a marker of fibrosis severity. Firstly, Transient Elastography (FibroScan) appeared in France and many published papers and meta-analyses proved that this method is quite a good alternative to liver biopsy [2-5]. Later, this method spread in the world and is now a valid alternative to liver biopsy, being used as a reference method in the national guidelines of treatment in chronic hepatitis, in some countries such as France or Romania. Despite initial criticism concerning the difficulties to discriminate between close stages of fibrosis (F0 vs. F1 or F1 vs. F2), Transient Elastography seems to be sensitive enough to diagnose the most important moments in the evolution of chronic hepatitis: F2 (moderate fibrosis) for treatment indication and F4 (cirrhosis) for prognosis [5]. The dis-

advantage of Transient Elastography is the high cost of the machine and for this reason the number of centers performing Transient Elastography is not very high.

In the last 2-3 years, new elastographic methods using ultrasound waves appeared on the market, having the advantage of being integrated in ultrasound machines. Real-Time Elastography (RT-E) and Acoustic Radiation Force Impulse (ARFI) Elastography are the new methods used for the “real-time” evaluation of liver stiffness. Initially, the results obtained with RT-E were not very good, especially due to the incapacity to obtain good numeric values with this method (color code estimation) [6,7]. Recently published papers demonstrate a good correlation between fibrosis severity and RT-E in patients with both HCV and HBV infection, as compared to the liver biopsy considered to be the “golden standard” [8,9].

On the other hand, several published papers have demonstrated that ARFI is a valuable method for liver stiffness assessment, with good correlation with fibrosis severity evaluated by means of liver biopsy [10-12]. The advantages of this last method are that it is a highly feasible one (97-99% of the evaluated cases) and the fact that it can also be performed in patients with ascites.

The AUROCs of the elastographic methods range between 0.80 and 0.95, being more accurate for advanced fibrosis. Some authors proposed to combine Transient Elastography and ARFI to increase their specificity, for non-invasive liver evaluation [13]. By combining these two elastographic methods, the results are very encouraging, with high specificity and PPV (more than 96%) for F2 and high specificity and NPV for cirrhosis.

The elastographic methods using ultrasound, as well as MRI elastography (regarding which the first clinical studies have been published) and biological tests used for the evaluation of liver fibrosis (among which FibroTest is the best evaluated) have demonstrated good results, with high accuracy, especially regarding severe fibrosis

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and cirrhosis. This is why many hepatologists tend to use these non invasive methods for the evaluation of liver fibrosis more and more. Keeping in mind that the “golden standard” for the evaluation of liver fibrosis (liver biopsy) is an imperfect method [1] and that it is an invasive one, probably in the near future, we will see that the elastographic methods will be used more often in patients with chronic hepatopathies.

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