Editorial
Diagnostic Immunology

Ann Lab Med 2018;38:289-290
https://doi.org/10.3343/alm.2018.38.4.289
ISSN 2234-3806 • eISSN 2234-3814

ANNALS OF LABORATORY MEDICINE

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Mac-2 Binding Protein Glycosylation Isomer: Emerging Non-Invasive Serum Marker for Liver Fibrosis

Glycoprotein, which has glycan branches on its protein surface, is one of major forms of proteins existing in human body [1]. Its sugar composition and branched structure are known to be very specific to differentiation stages or pathologic changes of cell [1]. Therefore, as a glycoprotein-based biomarkers (glyco-biomarkers), it has been already used as laboratory tests like hemoglobin A1c for blood glucose monitoring or carbohydrate-deficient transferrin for chronic alcohol consumption [1, 2]. A new glyco-biomarker named Mac-2 binding protein glycosylation isomer (M2BPGi, Wisteria floribunda agglutinin-positive Mac-2 binding protein) is emerging as a serum marker for liver fibrosis.

Liver fibrosis results from sustained hepatic injury and is characterized by excessive accumulation of fibrotic tissue and distortion of the normal hepatic architecture [3, 4]. Fibrotic change is originally considered irreversible; however, liver fibrosis regression or restoration of the functional capacity can be achieved by controlling hepatic damage with some antiviral agents [3, 4]. Therefore, the extent and degree of liver fibrosis can provide important prognostic information on patient outcomes [4]. For assessing liver fibrosis, conventional liver biopsy still remains the gold standard method [5]. However, due to its invasiveness and discomfort for patients, liver biopsy cannot be performed frequently [4]. In addition, various non-invasive scoring systems using elastographic methods or serum markers have been proposed as surrogate tools [3].

Among serum biomarkers for liver fibrosis, M2BPGi, has been recently introduced in laboratories as a commercially available form. Many clinical and laboratory data have been accumulated to show that M2BPGi can be a useful serum marker for evaluating liver fibrosis in various chronic liver diseases such as chronic hepatitis C virus infection, autoimmune hepatitis, primary biliary cholangitis, and non-alcoholic fatty liver disease [6]. In this issue, we introduce two respective original studies investigating its diagnostic availability for assessing liver fibrosis. The authors reported interesting results of comparison between M2BPGi and other serologic markers, transient elastography, and various scoring systems [3, 7].

M2BPGi is on the status of surrogate marker, which cannot fully substitute for liver biopsy; however, based on continuous efforts for finding new blood markers and promoting their diagnostic efficacy, we carefully hope that the new era for non-invasive assessment of liver fibrosis towards liquid biopsy might be realized in the field of liver diseases in the near future [4].

Authors' Disclosures of Potential Conflicts of Interest

No potential conflicts of interest relevant to this article were reported.

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