

Plasma osteopontin level as a diagnostic marker of hepatocellular carcinoma in patients with radiological evidence of focal hepatic lesions

Ashraf Khalil^{1,6}, Jamal Elgedawy¹, Mohammed F Faramawi^{4,5}, Ashraf Elfert¹, Ibrahim Salama³, Ahmed Abbass¹, Hala Elsaid¹, and Hatem Elsebaai²

¹Department of Biochemistry, National Liver Institute, Menoufiya University, Shebin Elkom;

²Department of Biochemistry, College of Medicine, Menoufiya University, Shebin Elkom;

³Department of Hepatobiliary Surgery, and ⁴Department of Epidemiology, National Liver Institute, Menoufiya University, Shebin Elkom, Egypt; ⁵Department of Epidemiology, University of Arkansas for Medical Sciences, Little Rock, AR; ⁶Department of Otolaryngology-Head and Neck Surgery, University of Virginia, Charlottesville, VA, USA

ABSTRACT

Aims. Hepatocellular carcinoma is one of the most aggressive malignant tumors and has limited treatment options. Needle-guided biopsies have been utilized as a tool to diagnose malignant focal hepatic lesions. These techniques are discouraged because of their complications. Nowadays, alpha fetoprotein is the most widely used tumor marker for screening and diagnosis of hepatocellular carcinoma. Nevertheless, this marker has limitations. The diagnostic role of plasma osteopontin as an adjuvant or alternative marker to alpha fetoprotein to detect hepatocellular carcinoma in Egyptian patients with focal hepatic lesions was evaluated in this study.

Subject and methods. Eighty participants were recruited from the Egyptian National Liver Institute and were self-assigned to three groups, namely, focal hepatic lesions (n = 40), liver cirrhosis (n = 20), and controls (n = 20). Participants' plasma osteopontin and serum alpha fetoprotein levels were determined and were compared across the three groups.

Results. The discriminatory ability of plasma osteopontin for hepatocellular carcinoma was lower than that of alpha fetoprotein. Osteopontin and alpha fetoprotein were not correlated with each other. Neither the gender nor the age of the patients showed a significant association with plasma osteopontin level.

Conclusion. Measuring plasma osteopontin level alone has no advantage over serum alpha fetoprotein in patients with focal hepatic lesions due to chronic liver disease.

Key words: osteopontin, AFP, focal hepatic lesion, hepatocellular carcinoma, liver cirrhosis.

Correspondence to: Ashraf Khalil, MD, PhD, Department of Biochemistry, National Liver Institute, Menoufiya University, Shebin Elkom, Egypt.
Tel +20-48-3352455;
+1-804-822-9765 (USA);
+1-434-982-4189 (USA);
email khalilaa@liver.org-eg;
ashraf.khalil@virginia.edu

Received May 16, 2012;
accepted October 15, 2012.