Background/Aims: The diagnostic role of noninvasive fibrosis assessment which may obviate liver biopsy in Asian patients with hepatitis C remains controversial. The current study aimed to evaluate diagnostic accuracy of noninvasive fibrosis assessment to predict advanced fibrosis or cirrhosis in Asian patients with hepatitis C. Methods: A total of 101 antiviral treatment-naive patients with hepatitis C were prospectively enrolled between March 2011 and March 2013. Liver stiffness was measured by acoustic radiation force impulse (ARFI) elastography. Simultaneously, liver biopsy was performed for histological confirmation of hepatic fibrosis. Diagnostic performance of serum fibrosis indices and ARFI imaging was compared to predict advanced fibrosis or cirrhosis by analyzing the area under the curve (AUC). Results: The median age of study population was 59 (25-82) years. Fib-4, Forns index, APRI, Model 3, and FibroTest showed significant, positive correlation with METAVIR stage (P<0.0001). Fib-4 showed the highest AUC for advanced fibrosis (F3) (0.864; 95% CI, 0.793-0.934) and the AUC of Model 3 was the highest for cirrhosis (F4) (0.847; 95% CI, 0.767-0.927). A tendency toward increasing liver stiffness existed in a graded fashion across METAVIR stage (P for trend<0.0001). Conclusions: Fib-4 and Model 3 are useful, noninvasive fibrosis indices to predict advanced fibrosis and cirrhosis in Asian patients with hepatitis C. In addition, ARFI elastography shows acceptable diagnostic performance of assessment of hepatic fibrosis in patients with hepatitis C.