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Radiologic surveillance of patients with viral hepatitis

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EDITORIAL

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Viral hepatitis remains a cause of great health concern globally. With an approximate burden of HBV from 3 - 7.3%, HCV from 2.2 - 5.2%, and 7.6% for hepatitis B and C and even higher for selected groups,[1] for a population of approximate 207.77 million, Pakistan is no exception.

These hepatitides tend to run a protracted course in a large number of patients. Despite the advances in vaccination of HBV, there are a sizeable number of patients encountered in everyday clinical practice who have either active viremia or severe fibrosis, cirrhosis and portal hypertension (PHT) in spite of a sustained viral response (SVR). The main key factor is ongoing hepatic fibrosis progressing to cirrhosis and its complications. Surveillance, therefore, has to be done for progression of fibrosis, which appears to be a decisive factor in determining the extent of hepatic damage, ending up in hepatocellular carcinoma (HCC). This has an all-important bearing on the management and final outcome of disease.

There is no disagreement about the need for surveillance. Disputable points are: whom, how and when? Consensus guidelines vary according to age, gender, viral genotypes (in case of HCV), mono- or dual-infection, and the presence of complications. Very broadly speaking, alcoholic persons with active HBV+HCV, appear to be at greater risk of cirrhosis.[2,3] Studies indicate that achieving SVR with Direct Acting Antivirals (DAAs) does not abolish the risk of HCC, cirrhosis and PHT, so that these patients must be followed up.[4]

The next question is: how to perform this surveillance. Clinical and laboratory parameters have led to formulate many indices and combinations (ARRI, Fibrotest and FIB-4, for instance) with age, platelet indices, liver enzymes and tumor markers (AFP), which reflect functional outcome of the physical change in liver. This morphological change is ideally evaluated by biopsy, which is an invasive test with attendant albeit slight risk of morbidity and mortality; but greater is the fractional representation in the sample from a very large organ resulting in interpretative errors. Hence, blood tests and radiologic imaging combination are gaining popularity to achieve this end.

Currently, fibrosis is basically evaluated with sonoelastography, also called transient elastography or The Elastography, which has been in practice for over a decade and, is widely available even in Pakistan and is said to have a rather accurate correlation with the histologic stage of fibrosis than the gray-scale or even Doppler sonography.[5] Then main advantage of the latter is identification of steatosis[6] and detection of small HCC. Magnetic resonance elastography (MRE) is considered superior to sonoelastography. It is a single custom-tailored study with dedicated protocol that measures fibrosis as well as the fat and iron content of liver in a much larger hepatic tissue, thus overcoming the heterogeneity of change, and observer bias.[7]

Advanced fibrosis leads to cirrhosis, PHT and HCC. Conventional abdominal ultrasound, including gray-scale and Doppler scan, is as good for detection and monitoring of PHT as any clinician may wish. Likewise, it is also good for detection of small mass lesions in early HCC.[8] It is now recommended from the American and European experience that surveillance for HCC should be done at a 6-monthly interval through abdominal ultrasound.[8-10] Shorter (3-month) and longer (one-year) intervals have been experimental with; but the yield and outcome of the bi-annual sonography reward the most practical and cost-effective approach.[11,12] CT is not preferred due to cost and radiation.[13]

So to conclude, women older than 50 years and men aged above 40 years having single and dual hepatitis viral infection, irrespective of active or quiescent infection or even SVR, should undergo a 6-monthly monitoring with simpler blood tests coupled with hepatic sonography (conventional ± sonoelastography); and those with a detectable nodule must undergo further evaluation. MR holds greater promise, but at a greater financial cost and with limited availability. The need of the hour is to develop local surveillance guidelines tailored to Pakistani/regional needs, which is rather deficient at present.

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