“Simplified HCV Diagnostics”

Teri Roberts
MSF Access Campaign, Diagnostics Advisor
Geneva

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Globally there are an estimated 115 million people with antibodies to HCV and 2 million of them are HIV co-infected (1). Critically, the most recent WHO guidelines launched at ILC2016 recommend prioritization criteria rather than eligibility criteria for HCV treatment to facilitate a “test and treat” approach. This recognises the benefits of early treatment, such as the reduction of liver and non-liver related morbidity (2) and decreased risk of transmission, while acknowledging the lack of resources in countries and the need for progressive scale-up over time.

There are no comprehensive screening programmes for HCV in low- and middle-income countries, meaning that the majority of people are unaware of their status. One barrier is the lack of fit-for-purpose and quality assured tests that can be used at the point-of-care. Prior to the introduction of new, all oral, pan-genotypic, direct acting antivirals (DAAs), toxic and often ineffective IFN-based treatment was used. This required a much more comprehensive set of tools to diagnose, genotype, stage and monitor the treatment’s toxicity and a person’s treatment response. A major advantage of DAAs is the facilitation of an extremely simplified diagnostic and monitoring strategy. Now, testing can be reduced to a qualitative virological test at diagnosis, optional infrequent monitoring, such as of ALT, creatinine and haemoglobin (all readily available tests), and a qualitative test of cure (SVR12).

I should also be noted that the majority of those with chronic HCV have viral loads in excess of 10,000 IU/mL, and preliminary evidence shows that the few people failing DAA therapy rebound with viral loads over 1,000 IU/mL (3), yet current guidelines still recommend an analytical sensitivity down to <25 IU/mL with no evidence of whether this is necessary for an acceptable clinical sensitivity. Clarification of this for manufacturers of point-of-care tests from a drop of capillary blood, and for the validation of dried blood spots as a sample type, especially when measuring core antigen, is urgently needed so that a feasible limit of detection can be reached that is supported by guidelines for uptake at country level.

For a simplified diagnostic strategy to be realised, a number of aspects need to be addressed: (1) Political will and funding from countries and donors; (2) Simple capillary blood-based point-of-care tests for serological screening and qualitative core antigen or RNA testing (supported by a clear market for quality-approved tests); (3) Evidence to support a simplified diagnostic strategy together with guidelines that recommend (i) test and treat approaches to obviate the need for staging, (ii) pan-genotypic regimens to obviate the need for genotyping and (iii) no viral load monitoring; and (4) Access to affordable DAA regimens for people living in all low- and middle-income countries. Failing this, the promise of the current treatment advances will not reach people in developing countries, and they will continue to unnecessarily bear the burden of HCV disease.

References

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