Hepatitis C Testing In Low Income Situations

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Hepatitis C Testing in a Low-Income Countries

Example 1. Infected with Hep C in Bosnia
Hi Greg,

I am from Bosnia. I really don't know where to start with my Hep C treatment. I am trying to get money to do Hepatitis C RNA PCR tests, it's around 100 EUR for that test here.

What should I do after?

Is it necessary to do Genotype test? The genotype test is very expensive here, more than 200 EUR, almost my entire monthly income.

Can you please help me? I don't know whom to trust anymore. Too many groups and enthusiasts. My salary is around 300 EUR per month, what can I do with that. I have a daughter, her mother is in Germany, don't want to know about us.

My infection is probably more than twenty years old, got it during the war with Serbia.

Can you somehow help me start with this, I need to live some time longer, my daughter is still too young…

Thanks a lot.

Best regards.

M.

Abstract
For more than half of the world's population the cost of standard pre-treatment HCV testing is beyond their ability to afford. In many cases the cost of the testing is more than the cost of the actual medication. (Ref)

Many low-income countries do not even have genotype testing facilities and blood samples must be sent off-shore to be tested. (ref)

In "First World" countries the "normal" pre-treatment testing protocol for people who have tested positive for HCV antibodies generally runs something like this:

Liver Function Test

Viral Load Test

Genotype Test

Treatment

EOT Viral load test

12 week post-treatment viral load test

Included in the above testing might also be a Fibroscan, an ultrasound or even an MRI scan.

Test Costs Are Cheaper in Wealthy Countries

In the USA, for a person without health insurance, a viral load test will cost a minimum of US$120. A genotype test will cost a minimum of US$250. A Liver Function Test will cost around US$45.

In Bosnia, the Philippines, Thailand or Nigeria a genotype test will cost about US$250. In Nicaragua, the second most impoverished nation on Earth, a genotype test will cost about US$800 and must be sent to Cuba because there are no genotype testing laboratories in Nicaragua. (ref)

Many Third World countries have no RNA or genotype testing facilities. (ref)

For these reasons it is important to develop a protocol, or testing regime, that will help people in low income situations suspected of being infected with the Hepatitis C virus.

This work will propose alternative testing options for people with Hepatitis C in low income situations that will enable treatment and then post treatment monitoring for these people withut bankrupting them or putting them into years of debt from loan sharks and money lenders. The people that this applies to may be poor people in rich countries such as the USA or poor people in poor countries such as Nigeria or Nicaragua, Serbia or the Philippines.

The Short Story

Because viral load and genotype testing in low income countries is extremely expensive relative to a person's income, the best option for people infected by Hepatitis C in low income countries is to use a drug combination that treats all genotypes of Hepatitis C. Sofosbuvir 400mg + Daclatasvir 60 mg for 12 weeks is an effective treatment against all genotypes of Hepatitis C and is the currently the cheapest treatment option available.(Ref)

Whilst the ideal test procedure is approximated by the following sequence: Antibody test > genotype test > liver function test > treatment > post treatment viral load test. This is often not possible in low income countries either because of the costs involved are prohibitive or because the testing is simply not available. (Ref)

This work proposes that in low income countries the most affordable test regime is antibody test > liver function test > treatment > post treatment RNA test.

In extreme situations of poverty this could be reduced further to: Antibody test > liver function test > treatment > post treatment liver function test

If it is possible a Liver Function Test should be taken before beginning treatment. Any high liver

enzyme levels should be noted for comparison at end of treatment.

Once treatment is completed a RNA test should be taken 12 weeks after end of treatment, if it is possible.

If a RNA test is unavailable or too expensive then a liver function test should be taken at the end of treatment and again 6 months after end of treatment and once a year there after.

If liver enzymes were high before starting treatment and they remain within normal ranges after completion of treatment, then a cure can be assumed.

The logic of this test protocol is as follows:

If a patient tests positive for HCV antibodies there is approximately an 80% chance that they are infected with Hepatitis C. (Ref)

If a patient tests positive for HCV antibodies and has elevated liver enzyme levels then there is a better than 90% chance that that patient is infected with Hepatitis C.

If this patient is treated with a pan-genotype DAA such as Sofosbuvir + Daclatasvir and has a liver function test 3 weeks into treatment and this test shows a significant improvement in liver enzymes this can be considered as confirmation that the patient was infected with Hepatitis C.

If liver enzyme levels were high prior to treatment and return to normal levels during treatment and remain at those normal levels 12 months after end of treatment it may be assumed that the HCV has been cured.

Click here to read 'The Long Story.' Greg's blog *is reprinted with permission, and the opinions expressed are entirely* his.

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