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P0791 The detection of HCV RNA from dried blood spots using the artus HCV QS-RGQ RT-PCR assay

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Background: Early detection of Hepatitis C is important for improved patient outcome and to prevent disease transmission in closed communities**.** We previously presented the ability to detect anti-HCV from a single dried blood spot (DBS) using a novel and innovative collection device. Although this is an excellent screening method, the need for proving infectivity is just as important. We now present findings on how the artus® HCV QS-RGQ RT-PCR assay has been used to detect HCV RNA from DBSs.

The aim is to provide clinicians with anti-HCV and HCV RNA results from the original DBS submitted. With both results, patients only need to be recalled if treatment is required saving on costs, time and unnecessary repeat testing.

Materials/methods: Whole blood EDTA samples were collected from 100 patients attending Hepatitis clinics at SWBH. From this sample, DBSs were made using a unique patented collection device. The remainder of the sample was centrifuged and the plasma stored at -80°C prior to testing.

Plasma viral load was measured using the artus ® HCV QS-RGQ RT-PCR assay. This was run on the Qiagen QIAsymphony SP/AS combined with the Rotor-Gene Q integrated automated platform using the DSP virus/pathogen midi kit. Eluted DBSs were then tested in the same way using the DSP virus/pathogen mini kit and both sets of results compared.

Results: Of the 100 samples received, 13 were excluded as they were lysed or insufficient for testing. From plasma, the remaining 87 samples included 47 that had a detectable HCV viral load (>21 IU/ml) and 40 that were undetectable (<21 IU/ml). From 40 DBS samples, a detectable (>21 IU/ml) was seen compared to 47 with no detectable viral load (<21 IU/ml).

Conclusions: Overall, successful detection of HCV RNA from dried bloodspots was achieved. However, concentrations of HCV RNA were lower from those obtained from DBS compared to those from plasma.

Dried blood spot testing is a useful way of diagnosing HCV infection. The availability of HCV RNA results to clinicians after initial testing prevents unnecessary patient recall and at the same time access to early treatment for those requiring it.