

Sorting out the reliable profiles in capillary zone electrophoresis : The example of the carbohydrate-deficient transferrin (CDT) assay of cirrhotic patients

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CDT is a serum marker used to estimate chronic alcohol abuse. This assay is both difficult and critical for cirrhotic patients, especially those awaiting liver transplantations. In this presentation, we propose to display the performances of the CDT-Capillary assay (Sebia) to discriminate abstainers from abusers among cirrhotic patients and to expose recommendations to improve its reliability in this patient group.

Methods: 110 patients with known hepatic status of cirrhosis had their CDT measured by Capillary2 and confronted to their daily alcohol intake. CDT assays by the Bio-Rad %CDT by HPLC test or the N-Latex CDT assay (Siemens) were also performed as alternative methods.

Results: Many electrophoretic profiles displayed by the Capillary2 are extensively processed by the Phoresis software in case of cirrhosis. This was not observed with control sera. In order to decide when the processed electrophoretic profiles could reliably be used, we defined a qualitative criterion. This criterion consisted to apply an indicator of the resolution between the disialo and trisialo-transferrin peaks. Thus detecting abusers with cirrhosis using the CDT-Capillary assay is possible when the indicator is in the normal range. However, only 54% of the profiles from cirrhotic patients fulfilled this criteria and no alternative CDT assay demonstrated satisfying performance for excluded samples.

Conclusions: Applying an internal criterion of quality can help deciding which electrophoretic profiles can reliably be interpreted. However, improving the global quality of the test and decreasing the number of uninterpretable results require an improvement of the CDT assay.

Biography

Gonzalo, P., Pecquet, M., Bon, C., Gonzalo, S., Radenne, S., Augustin-Normand, C., and Souquet, J.-C. (2012). Clinical performance of the carbohydrate-deficient transferrin (CDT) assay by the Sebia Capillary2 system in case of cirrhosis. Interest of the Bio-Rad %CDT by HPLC test and Siemens N-Latex CDT kit as putative confirmatory methods.

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