FibroTest attributes to generate decision trees in hepatitis C

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In recent years the use of non-invasive biomarkers to assess liver fibrosis has become widely accepted. Although the combination of surrogate markers, such as those employed by the FibroTest, have a high predictive value for the assessment of significant fibrosis, it is important to find tools that can improve its accuracy, particularly in intermediate stages and to reinforce its reliability by ensuring that the classification results are independent of contingent features of the classification technique.

A research article to be published in the *World Journal of Gastroenterology* explored the automatic generation of decision trees to simplify a classification process and to provide additional information to support the classification rational. The research group, led by Dr. Kershenobich from México´s National University (UNAM), used the C4.5 classification algorithm to construct decision trees with data from 261 patients with chronic hepatitis C without a liver biopsy. The FibroTest attributes (age, gender, bilirubin, apolipoprotein, haptoglobin, 2 macroglobulin, and glutamyl transpeptidase) were used as predictors, and the FibroTest score as the target.

The construction of decision trees using the FibroTest attributes provided explicit rules to relate the range of values of the biomarkers with fibrosis scores, and they might help in gaining a better grasp of the importance and significance of the test.

Analysis, such as the one performed in the present work, could help to

further classify preclinical subgroups and identify subclasses of rapid or slower fibrosers. This classification should enhance our ability to assess differences in fibrosis scores in clinical studies and improve our understanding of fibrosis progression.

The present work is the result of a group effort between members of the Department of Experimental Medicine of the Faculty of Medicine and the Institute of Applied Mathematics at the Universidad Nacional Autonoma of Mexico (UNAM), which provided a grant to support the investigation.

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