Studies on some biological aspects on patients with chronic hepatitis C virus nd bilharzial infections.

Nivin salah el-din salem mohammed

Currently, HCV infection is one of the major health problems worldwide. In Egypt, HCV, along with bilharzial infection, is the major cause of chronic liver disease, liver cirrhosis, and even HCC. For many years ago, liver biopsy is the only way to assess liver condition; providing good opportunities for antiviral therapy. Great interest has been focused on evaluating non-invasive diagnostic tests, to replace the widely applicable, invasive, contra-indicative liver biopsy. For this goal, and also to study to what extent bilharziasis could aggravate the liver histopathology in HCV-infected patients, the present study selected 80 HCV-PCR positive patients; including 40 with only chronic HCV infection and 40 with bilharzial co-infection; using both liver biopsy specimens (80) and blood samples (72). Histopathologically, the liver biopsies classified into HCC cases (8) and chronic hepatitis cases (72) which- in turn- reclassified (according to METAVIR) into; 56 cases in stages 0-3 fibrosis and 16 in stage 4 fibrosis (=cirrhosis).The more progressive histopathological changes are detected with the concomitant bilharzial infection.Only 6 (6/56 = 10.7%) of the chronic hepatitis case, with and without cirrhosis, revealed positive reaction for AFP (ABC reaction). Tissue AFP is diagnostic in 87.5% of the HCCs. Using DNA image analysis revealed that; most of cases (71/80, 88.8%) are diploid whereas the rest (9/80, 11.25%) are aneuploid with high SPFs. Interestingly, the aneuploid cirrhotics and the well differentiated tetraploid case are belonged to HCV-male patients with concomitant bilharzial infection, reflecting relationship between bilharzial co-infetion and the rapid course of disease progression. The present non-invasive model included both historical (age & sex) and biochemical parameters (HCV- type and –level of viraemia, ALT, AST, AST/ALT ratio, serum albumin, GGT, platelet count, MMP-9, serum AFP, and prothrombin time) then correlating them with their corresponding liver biopsies. Although the predominance of type 4 (over types 1 & 6), none of HCV-type or –level had an effect on the severity of liver injury. No single, non-invasive, test could predict (with 100% accuracy) the severity of liver disease in chronic HCV infection. The “danger signals”, that suggest the presence of advanced fibrosis included; high AST/ALT, prothrombin time and GGT; decreased MMP-9, platelet count (which perhaps the earliest change), and albumin. The use of the present significant serum parameters, together with the age of patient, can help to decrease the need for liver biopsy in many patients, at least those contraindicated for liver biopsy.