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Renovation of *Annals of Hepatology's* Scientific Scope: Towards Preventing Rather Than Treating End-Stage Liver Disease

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Based on how disease processes are understood, treatment is established accordingly; this has been the core viewpoint of traditional and contemporary medicine. Cirrhosis, an illness acknowledged for more than 2000 years, has been the cornerstone of Hepatology. However, science and technology changes what we conceive as health and disease.[1] Our knowledge of liver cirrhosis has grown and evolved over time. In the mid-20th century, biochemistry and immunology scientists began developing novel tools aimed to provide practical liver function tests.[2] By using half-life data of proteins synthesized and secreted by the liver, such proteins turned out to be the ideal candidates to evaluate liver functionality. Albumin, a serum protein with a long half-life was then used to assess chronic liver damage, while clotting factors with a short half-life lead to the development of prothrombin time tests as a marker of acute liver damage. Beside other biomarkers of liver injury, such as ALT and AST enzymes, alpha-fetoprotein as a marker of hepatocellular carcinoma also emerged. To date, all these biomarkers are still very useful in the clinical practice. On the other hand, the understanding of energy metabolism integrated by Krebs and Erlenmeyer would be the basis to initiate plausible treatment strategies by indicating "sweets" to patients with acute viral hepatitis.

Later, advances in both light microscopy and electron microscopy contributed to the study of the structure of the liver tissue enhancing the interpretation of the liver biopsy. In the 60's and 70's, biochemistry, immunology, cell biology and molecular biology combined lead to the discovery of the viral hepatitis viruses, HAV, HBV, and NoA-NoB. This last virus would then be uncovered as HCV in the late eighties. Alongside came the first attempts to detect viral antibodies, which started as simple agar immunodiffusion techniques that later acquired higher sensitivity and specificity with the use of radioisotopes and monoclonal antibodies (EIA and ELISA). Parallel to these technological advancements came the progress in the understanding of the pathogenesis of liver cirrhosis and its underlying etiologies. Alcoholism, a common illness in the history of civilization has been the leading cause of liver damage since ancient times. Also, the high endemicity of viral hepatitis and its association with cirrhosis and hepatocellular carcinoma in Asia has been a global concern. On the other hand, the relationship between malnutrition and liver cirrhosis initially denoted as Laennec's cirrhosis has shifted towards an obesity pandemic and non-alcoholic steatohepatitis (NASH), which currently is one of the leading public health problem worldwide, but specifically of the westernized countries.

Subsequently, a breakthrough in the comprehension of liver disease is generated by the development of molecular biology techniques in the 80's. This achievement gave scientists direct access to the genetic structure of the human genome and liver viruses; thus advancing in the study of host-viral interactions, a "first stone" towards building a bridge between the basic and clinical sciences. Furthermore, the task to sequence the human genome ignited the

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Human Genome Project as a landmark of the pre-genomic stage until its completion in 2001, and with this event, the "omics" era begins.[3,4] This new scientific boom directly affects all fields of medicine, including Hepatology.[5] Currently, new insights on the diagnostics, management, pathogenesis and treatment are being acquired based on the ongoing research in the fields of genomics, transcriptomics, proteomics, and metabolomics applied to the study of the liver.

Over time we have witnessed and participated in the creation of new medical specialties and postgraduate programs to update the curriculum of health professionals who will be the future practitioners using this fast-growing knowledge of genomics (from bench to bedside). In fact, molecular biology in medicine currently denoted as Genomic Medicine impulsed the bridging of basic and clinical research (translational medicine) through its different stages: pre-genomic, genomic and post-genomic era. Studies of the genetic makeup of different human populations and the effect of environmental factors on health is currently an exciting scientific topic. Accumulating evidence suggests that evolutionary processes faced by humans to adapt and survive in different environments are recorded as genetic polymorphisms. These genetic signatures that vary by population are the starting point for the study of gene-environmental interactions. It has been proposed that an imbalance between these adaptive polymorphisms and the current-day lifestyle, i.e., unhealthy diet and sedentarism are the environmental risk factors contributing to the current epidemic of obesity and its associated comorbidities. Therefore, these gene-environmental interactions defined by lifestyle shape the outcome and severity of disease. With this knowledge, genomic medicine research is now focused on providing strategies to prevent or halt disease progression instead of managing clinical complications of end-stage liver disease.[6]

In regards to our journal, *Annals of Hepatology* will continue to cover its staple research categories: Alcoholic liver disease, Viral hepatitis (HAV, HBV, HCV, HDV, HEV), NAFLD/NASH, Genetic liver diseases, Autoimmune hepatitis, Drug-induced liver injury and Biliary diseases. However, given the important amount of manuscripts that we receive from all corners of the world, we have renovated the journal's scope to publish research consistent with the new trends in Hepatology to gain greater visibility. Therefore, we now welcome studies aimed at:

- Genome-based nutrition for healthier liver function and in liver disease.
- Advances in early molecular and clinical diagnosis of liver disease
- Strategies preventing or halting the progression of chronic injury by any etiological agent.
- Regionalized and individualized medicine tailored by population.
- Treatment by either medication, lifestyle interventions, liver transplantation, or gene therapy.
- Genetic and environmental factor interactions: genes-alcohol, genes-NASH, genes-viral hepatitis.

Research using basic, translational, clinical, or epidemiological methodologies that covers the natural history of the disease (steatosis, inflammation, fibrosis, cirrhosis or cancer), phases of disease (acute or chronic) or levels of medical interventions (diagnostics, management and treatment) will be considered for publication. In this new stage, we invite authors from Latin America and worldwide to consider Annals of Hepatology as one of the best publishing venues to disseminate their research.

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