Diseases of the Liver and Biliary Tract

Proceedings of the Fifth Quadrennial Meeting of the International Association for the Study of the Liver, Acapulco, 1974

Diseases of the Liver
and Biliary Tract

with a Standardization of

Nomenclature, Diagnostic Criteria
and Diagnostic Methodology

Editor: Carroll M Leevy, Newark, N.J.

91 figures, 37 tables, 1976

S. Karger • Basel • München • Paris • London • New York • Sydney

Cataloging in publication

International Association for the Study of the Liver
Diseases of the liver and biliary tract:
Sponsored jointly with the Fogarty International Center.
1. Liver Diseases - congresses 2. Biliary Tract Diseases - congresses I. Leevy, Carroll Morton, 1920-, ed. II. John E. Fogarty International Center for Advanced Study in the Health Sciences III. Title IV. Title: Meeting on diseases of the liver and biliary tract
WI 700 161d 1974
ISBN 3-8055-2276-2

All rights, including that of translation into other languages, reserved.
Photomechanic reproduction (photocopy, microcopy) of this book or parts of it without special permission of the publishers is prohibited.

© Copyright 1976 by S. Karger AG, Basel (Switzerland), Arnold-Böcklin-Strasse 25
Printed in Switzerland by Thür AG Offsetdruck, Pratteln
ISBN 3-8055-2276-2
Contents

Introduction .................................................. VII
Powell, L.W.; Alpert, E.; Drysdale, J.W., and Isselbacher, K.J. (Brisbane): Tissue Isoferritin Distribution in Idiopathic Haemochromatosis and Other Iron Storage Diseases ..... 10
Meyer zum Büschenfelde, K.H. and Hopf, U. (Mainz): Studies on the Pathogenesis of Experimental Chronic Active Hepatitis in Rabbits ............................... 18
Zetterman, R.; Chen, T., and Leevy, C.M. (Newark, N.J.): Autoimmunity and Alcoholic Liver Disease ................ 27
Arakawa, Y.; Bull, D.M.; Schott, C.F., and Davidson, C.S. (Boston, Mass.): Studies of a Liver Specific Antigen. • • • • • • • • 37
Dujovne, C.A.; Gotoh, Y., and Shoeman, D. (Kansas City, Kans.): Comparative Toxicity of General Anesthetics on Chang Liver
Cell Cultures ........................................ 48

VI Contents
Pabst, M.; Jacoby, W., and Arias, I.M. (Bronx, N.Y.): Ligandin
(Y Protein) and Glutathione Metabolism ...................... 52
Tiribelli, C.; Panfili, E.; Sandri, G.; Frezza, M., and Sottocasa,
G.L. (Trieste): Liver Bromosulphonphthalein Transport as a
Carrier Mediated Process ................................. 55
of Limited Red Cell Permeability on the Exchange of Materials
in the Liver ............................................. 60
Paumgartner, G. and Reichen, J. (Berne): Multiplicity of Hepatic
Uptake Mechanisms for Organic Anions .................. 65
Meyers, O.L.; Terblanche, J.; Hickman, R.; Webber, B., and Saunders,
S.J. (Cape Town): Hyperglobulinaemia in Portacaval
Shunted Rats: Implications in Cirrhosis? ................. 70
Fujiwara, K.; Sakai, T.; Oda, T.; Igarashi, S., and Yoshitoshi, Y.
(Tokyo): Collagenase, Active and Inactive, in Normal and
Fibrotic Rat Liver ...................................... 73
(Herston): Studies on the Role of the Liver in Vitamin B12
and Transcobalamin II Homeostasis ................. 78
French, S.W.; Sim, J.S., and Culling, C.F.A. (Vancouver): On the
Nature of Mallory Bodies and Their Role in the Pathogenesis
of Alcoholic Cirrhosis .............................. 80
Cederbaum, A.I.; Lieber, C.S., and Rubin, E. (New York, N.Y.): The
Effects of Chronic Ethanol Consumption and Acetaldehyde on
Hepatic Mitochondria .................................. 85
Lalyre, Y. and Wilson, D.E. (Chicago, Ill.): Effects of Prostaglandin
E1 on Ethanol-Oxidizing Systems in the Rat .... 92
Lieber, C.S.; Rubin, E.; DeCarli, L.M., and Feinman, L. (New York,
N.Y.): Respective Roles of Ethanol and Protein Deficiency in
the Pathogenesis of Alcoholic Hepatitis and Cirrhosis .... 97
Hepatocellular Uptake of Bile Acids: Evidence for a Carrier-
Mediated Transport System ......................... 101
Boyer, J.L.; Reno, D., and Layden, T. (Chicago, Ill.): Bile Canalicular
Membrane Na+, K+-ATPase. The Relationship of Enzyme
Activity to the Secretion of Bile Salt Independent Canalicular
Flow .................................................. 108
Bradley, S.E. and Herz, R. (New York, N.Y.): Differences in the
Biliary Clearances of Sucrose and Sodium Ferrocyanide in the
Rat as an Index of Membrane Potential . . . . . . . . . . . 113
Levine, R.A. and Hall, R.C. (Syracuse, N.Y.): The Role of Cyclic
AMP in Human, Baboon and Canine Bile Formation . . . . . . . 117
of Ethacrynic Acid-Induced Choleresis in the Rat . . . . L23
Groszmann, R.J.; Dubin, H., and Royer, H. (Martinez de Hoz y Perdriel,
PBA): Choleresis Induced by Lithocholic Acid in the
Rat . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 127
Brunner, H.; Slat, B.; Kretschmer, G.; Funovics, J., and Grabner,
G. (Vienna): Different Sensitivity of Secretin Action on
Liver Blood Flow and Bile Secretion . . . . . . . . . . . . . . . . . 131
Sharp, H.L. and Leonard, A.S. (Minneapolis, Minn.): Extrahepatic
Biliary Atresia: a Diagnostic Dilemma? . . . . . . . . 134
Sternlieb, I. (Bronx, N.Y.): Present Status of Diagnosis and Prophylaxis
of Asymptomatic Patients with Wilson's Disease . . . 137
Viallet, A.; Marleau, D.; Martin, F.; Farley, A.; Villeneuve, J.P.,
and Lavoie, P. (Montréal): Combined Hepatic and Umbilical Portal
Catheterization in Patients with Intrahepatic Portal
Hypertension. Relationship between Ruptured Varices and the
Portohepatic Gradient . . . . . . . . . . . . . . . . . . . . . . . 143

VII Contents

Conn, H.O.; Ramsby, G.R., and Storer, E.H. (West Haven, Conn.): Superior Mesenteric Arterial Infusion of Vasopressin in Hemorrhage from Esophageal Varices. A Controlled Investigation. 147
Jezequel, A.M.; Koch, M.; Galeazzi, R.; Lorenzini, I., and Orlandi,
F. (Ancona): Liver Response to Drugs in Man. A Correlated
Morphometric and Functional Study . . . . . . . . . . . . . . . . . 153
Summerskill, W.H.J.; Korman, M.G.; Ammon, H.V., and Baggenstoss,
A.H. (Rochester, Minn.): Prednisone Combined with Azathioprine
Superior to Other Treatments for Severe Chronic Active
Liver Disease CALD . . . . . . . . . . . . . . . . . . . . . . . . 158
Van Waes, L.; Beeckman, P.; Dewinter, H., and Demeulenaere, L.
(Tiel): Study of Liver Lymph Dynamics using Gamma Camera
Lymphoscintigraphy with 198 Au. A Preliminary Report . . . . . . 163
Seeff, L.B.; Zimmerman, H.J.; Wright, E.C.; Schiff, E.R.; Tamburro,
Introduction

This volume summarizes the Proceedings of the Quadrennial Meeting of the International Association for the Study of the Liver. The tropical climate and natural beauty of Acapulco provided an optimum setting for the reports by basic and clinical researchers of major breakthroughs, as well as the decision of the Organization to change its scope and purpose by assuming responsibility on a continuing basis for standardization of nomenclature, diagnostic criteria and diagnostic methodology for diseases of the liver and biliary tract. Hepatologists throughout the world are grateful to Dr. Luis Landa and his associates in Mexico City for their role in organizing this most successful and historic meeting.

Key discoveries involving structural and functional aspects of the liver and biliary tract reported at the Acapulco meeting represent further contributions to new knowledge in molecular biology and treatment of disease. Special reports on the status of the artificial liver, liver transplants, medical dissolution of gallstones and developing a vaccine for viral hepatitis are reflections of current progress being made in hepatology. The decision by the Association to increase international cooperative medical research in areas of pressing interest, and to develop specific programs to assess the efficacy of accepted diagnostic and therapeutic approaches under controlled conditions will hopefully help reduce further morbidity and mortality from hepatobiliary disorders.

The International Association for the Study of the Liver is indebted to the Fogarty International Center for joint sponsorship of the Conference which led to adopted criteria which are presented in this
book in an abbreviated form. This pace-setting document is a model which should be used in the international community for diseases of other organs. Established diagnostic criteria will facilitate greatly comparisons of the incidence and results of treatment of liver and biliary tract disease in different geographic areas. Recommendations on what methodology should be available for proper diagnostic work-up in an urban sophisticated environment, as well as rural underdeveloped areas will have considerable influence on medical practice. Adopted criteria will aid the primary physician who wishes to know his responsibility and limitations, and the expert who seeks support for special facilities and personnel needed for tertiary care.

Carroll M. Leevy, M.D.
Niels Tygstrup, M.D.