Clinical Update on Inflammatory Disorders of the Gastrointestinal Tract
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Contents

VII Preface
Mayerle, J. (Greifswald); Tilg, H. (Hall in Tirol/Innsbruck)

Hepatology

1 Non-Alcoholic Fatty Liver Disease
Bugianesi, E. (Turin)

15 Fibrosis in the GI Tract: Pathophysiology, Diagnosis and Treatment Options
Pinzani, M. (Florence)

32 Chronic Hepatitis B: Pathophysiology, Diagnosis and Treatment Options
Wursthorn, K.; Mederacke, I.; Manns, M.P. (Hannover)

42 Chronic Hepatitis C: Pathophysiology, Diagnosis and Treatment Options
Asselah, T.; Soumelis, V.; Estrabaud, E.; Marcellin, P. (Paris)

59 Clinical Update on Inflammatory Disorders of the GI Tract: Liver Transplantation
de Rougemont, O.; Dutkowski, P.; Clavien, P.-A. (Zürich)

72 Hepatocellular Carcinoma
Peck-Radosavljevic, M. (Vienna)

Gastroenterology

83 Coeliac Disease
Schuppan, D.; Junkler, Y. (Boston, Mass.)

95 Anti-TNF Therapy in Inflammatory Bowel Diseases
Fiorino, G. (Rome/Milan); Danese, S. (Milan); Peyrin-Biroulet, L. (Vandoeuvre-lès-Nancy)

108 Role of Epithelial Cells in Inflammatory Bowel Disease
Kaser, A. (Innsbruck)

118 GI Immune Response in Functional GI Disorders
Tack, J.; Kindt, S. (Leuven)

126 Probiotics in GI Diseases
Spuri Fornarini, G.; Campieri, M. (Bologna)
135 Microscopic Colitis
Pardi, D.S. (Rochester, Minn.); Miehlke, S. (Dresden)

Pancreatic Disorders

146 Inflammatory Proteins as Prognostic Markers in Acute Pancreatitis
Frossard, J.L. (Geneva); Bhatia, M. (Singapore)

157 Antibiotics, Probiotics and Enteral Nutrition: Means to Prevent Infected Necrosis in AP
van Doesburg, I.A.; Besselink, M.G.; Bakker, O.J.; van Santvoort, H.C.;
Gooszen, H.G. (Utrecht); on behalf of the Dutch Pancreatitis Study Group

166 IKK/NF-κB/Rel in Acute Pancreatitis and Pancreatic Cancer: Torments of Tantalus
Algül, H.; Schmid, R.M. (Munich)

176 Immunotherapy of Pancreatic Carcinoma: Recent Advances
Märten, A.; Büchler, M.W. (Heidelberg)

Gastric Disorders

186 Helicobacter pylori Infection: To Eradicate or Not to Eradicate
Schütte, K.; Kandulski, A.; Selgrad, M.; Malfertheiner, P. (Magdeburg)

199 Carcinogenesis and Treatment of Gastric Cancer
Rad, R. (Cambridge); Ebert, M. (Munich)

211 Author Index
212 Subject Index
Disorders of the digestive tract and the liver impose a significant economic and health burden on society. The US National Institutes of Health have recently completed a survey according to which digestive diseases account for 35 outpatient visits and 5 hospital days per 100 residents annually. The direct cost for medical expenses amount to USD 100 billion for digestive disorders and the indirect cost to an additional USD 44 billion [1]. While the magnitude of these expenses is on a par with a good-sized modern-day economic stimulus package, the disorders also have a high social cost. Ten percent of all deaths are attributed to digestive disorders. The numbers in Europe are thought to correspond to those in the USA, and by far the largest proportion of patients are thought to be affected by inflammatory disorders of the liver, the pancreas and the GI tract.

The good news is that research into inflammatory digestive disorders is showing results, with new insights from research constantly being brought to the bedside, and a reduction in disease burden and mortality has been achieved for a number of disorders.

Inflammatory diseases of the GI tract no longer include only infectious disorders (for which long-established anti-infective treatments are available and constantly being improved), but also a number of complex immunological disorders which are currently attracting much scientific attention. In this rapidly developing field, where biologically relevant signalling pathways were identified only in recent years, therapies that are directly based on these research findings are becoming available. A prominent example is the TNF-α blockade used in inflammatory bowel disease. In the field of gastrointestinal inflammation the term ‘from bench to bedside’ has become a reality.

This volume also covers emerging diseases such as microscopic colitis or non-alcoholic fatty liver disease that have only recently moved into the focus of scientific inquiry but which may have an unappreciated socio-economic impact.
Not all previously established treatment regimens have stood the test of time, and recent studies have questioned the evidence for using, for example, antibiotics, parenteral feeding or probiotics for patients with severe acute pancreatitis. Most pancreas experts were surprised to learn that the PROPATRIA trial on the use of probiotics in severe acute pancreatitis showed evidence for a harmful effect for a seemingly harmless therapy. The lesson from such negative studies is that controlled clinical trials should not only test novel treatment approaches but also challenge old assumptions about the standard of care.

The association between chronic inflammation and the development of cancer was recognized more than a century ago. As early as 1863 the German pathologist Rudolf Virchow reported the presence of leukocytes in neoplastic tissues and suggested a connection between inflammation and cancer. Nowadays clear associations have been shown between a variety of chronic inflammatory disorders such as Crohn’s disease, ulcerative colitis, pancreatitis, hepatitis or Helicobacter pylori-associated gastritis and an increased cancer risk of affected patients.

This volume of the Frontiers in Gastroenterology series includes up-to-date reviews on the relevant issues in inflammatory disorders of the GI tract, the liver and the pancreas. In a combination of expert basic research reviews and cutting-edge treatment guidelines the reader will learn about newly identified treatment targets and be able to participate in the development of novel treatment strategies. The fact that cancer often emerges on a background of inflammation highlights the notion that treating or preventing inflammation can also result in a reduction of cancer prevalence and is often effective in not only alleviating the patient’s suffering but also in reducing mortality.

We are grateful that world-leading experts in several fields have agreed to contribute to this project and want to thank them for sharing their knowledge and expertise with our readers. We hope that you will find it as fascinating and instructive to read this book as we found working on it. We also hope that this volume may serve as an inspiration for clinicians and scientist to enter the rapidly developing field of inflammatory diseases in gastroenterology.

Julia Mayerle and Herbert Tilg
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Reference