

Immunological Aspects of Gastroenterology

Immunology and Medicine Series

VOLUME 31

Series Editor:

Professor Keith Whaley, *Kuwait University, Safat, Kuwait*

The titles published in this series are listed at the end of this volume.

Immunological Aspects of Gastroenterology

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SPRINGER -SCIENCE+BUSINESS MEDIA, B.V.

Library of Congress Cataloging-in-Publication Data is available.

ISBN 978-94-010-3852-2 ISBN 978-94-010-0790-0 (eBook)
DOI 10.1007/978-94-010-0790-0

Printed on acid-free paper

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Originally published by Kluwer Academic Publishers in 2001

Softcover reprint of the hardcover 1st edition 2001

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Preface

The gastrointestinal tract represents a large and complex area of interface between the host and a complex luminal environment, consisting largely of microorganisms and their products and dietary constituents. The aim of this book is to illustrate the importance of the immune system in regulating normal host responses to luminal components and its role in acute and chronic inflammatory diseases of the gastrointestinal tract.

The topics covered encompass recent advances in immunology, cell biology and microbiology. The first four chapters deal with basic features of the mucosal immune system and current understanding of mucosal innate and adaptive immunity. Subsequent chapters illustrate specific aspects of host-microbial interactions in human diseases caused by infections with enteric pathogens, human immunodeficiency virus (HIV) and *Helicobacter pylori* and also strategies involved in mucosal immunisation to protect the host against such infections. The chapters on inflammatory bowel disease and rodent models of inflammation illustrate the complexity of the host mucosal immune response in chronic intestinal inflammation and the recent appreciation of the importance of interactions with the resident luminal microbial flora.

Current understanding of the immunoregulatory mechanisms that determine the induction and expression of oral tolerance to commensal bacteria and food proteins is also reviewed. Clinical, genetic and immunological aspects of coeliac disease, which is caused by a food product in a susceptible individual, are covered in a separate chapter. The unique immunological issues that arise following organ transplantation are considered in the final chapter.

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