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The Cornea

Scientific Foundations and Clinical Practice
Third Edition

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Little, Brown and Company
Boston/New York/Toronto/London

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Third Edition

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Library of Congress Cataloging-in-Publication Data

The cornea : scientific foundations and clinical practice / edited by
Gilbert Smolin, Richard A. Thoft.—3rd ed.

p. cm.

Includes bibliographical references and index.

ISBN 0-316-80270-0

1. Cornea—Diseases. 2. Cornea. I. Smolin, Gilbert. II. Thoft,

Richard A.

[DNLM: 1. Corneal Diseases. WW 220 C8133 1994]

RE336.C66 1994

617.7'19—dc20

DNLM/DLC

for Library of Congress

93-4460

CIP

Printed in the United States of America

EBM

Editorial: Elizabeth Thompson, Robert J. Stuart

Production Editor: Anne Holm

Copyeditor: Mary Babcock

Indexer: Alexandra Nickerson

Production Supervisor/Designer: Michael A. Granger

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Clinical Diseases of the Tear Film

Keratoconjunctivitis Sicca

David W. Lamberts

This section considers four topics. The first is a rational method for dividing the dry eye syndromes into five categories. The second is the techniques available for diagnosing the dry eye, or sicca, syndromes. The third is the currently or potentially available methods useful in treating these diseases. The complications of the dry eye syndromes are discussed last. A dry eye or keratoconjunctivitis sicca syndrome is said to exist when the quantity or quality of the precorneal tear film is insufficient to ensure the well-being of the ocular epithelial surface [39].

Categories of Dry Eye Syndromes

Dividing the dry eye syndromes into five varieties was originally suggested by Holly and Lemp [26]. These divisions are based on specific deficiencies that may have been chosen somewhat arbitrarily; nevertheless, they have excellent clinical applicability. The divisions are as follows: aqueous tear deficiency, mucin deficiency, lipid abnormalities, lid surfacing abnormalities, and epitheliopathies.

Aqueous Tear Deficiency

The aqueous layer forms the greatest bulk of the precorneal tear film. Aqueous tears are produced in the main lacrimal glands, with a lesser contribution from the accessory glands of Wolfring and Krause. Aqueous deficiency is by far the most common of the dry eye syndromes. Various causes share responsibility for the aqueous deficiency syndromes (Table 14-1). In spite of their rather diverse origins, the clinical presentation of these diseases is similar. One entity, Sjögren's syndrome, is such an important disease it is discussed separately in the second section of this chapter.

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