Adequate HLA Matching in Keratoplasty
Adequate HLA Matching in Keratoplasty

Volume Editor  R. Sundmacher, Düsseldorf

17 figures and 11 tables, 2003

Founded 1926 as ‘Abhandlungen aus der Augenheilkunde und ihren Grenzgebieten’ by C. Behr, Hamburg and J. Meller, Wien

Former Editors:
- A. Brückner, Basel (1938–1959);
- H.J.M. Wewé, Utrecht (1938–1962);
- H.M. Dekking, Groningen (1954–1966);
- E.B. Streiff, Lausanne (1954–1979);
- J. François, Gand (1959–1979);
- J. van Doesschate, Utrecht (1967–1971);
- M.J. Roper-Hall, Birmingham (1966–1980);
- H. Sautter, Hamburg (1966–1980);

Library of Congress Cataloging-in-Publication Data

Adequate HLA matching in keratoplasty / volume editor, R. Sundmacher.

Includes bibliographical references and index.

Bibliographic Indices. This publication is listed in bibliographic services, including Current Contents® and Index Medicus.

Drug Dosage. The authors and the publisher have exerted every effort to ensure that drug selection and dosage set forth in this text are in accord with current recommendations and practice at the time of publication. However, in view of ongoing research, changes in government regulations, and the constant flow of information relating to drug therapy and drug reactions, the reader is urged to check the package insert for each drug for any change in indications and dosage and for added warnings and precautions. This is particularly important when the recommended agent is a new and/or infrequently employed drug.

All rights reserved. No part of this publication may be translated into other languages, reproduced or utilized in any form or by any means electronic or mechanical, including photocopying, recording, microcopying, or by any information storage and retrieval system, without permission in writing from the publisher.

© Copyright 2003 by S. Karger AG, P.O. Box, CH–4009 Basel (Switzerland)

Printed in Switzerland on acid-free paper by Reinhardt Druck, Basel

ISSN 0250–3751

Contents

VII Preface

1 Introduction
Sundmacher, R.; Reinhard, T. (Düsseldorf)

5 The Short Story of HLA and Its Methods
Doxiadis, I.I.N.; Claas, F.H.J. (Leiden)

12 Degree of Compatibility for HLA-A and -B Affects Outcome in High-Risk Corneal Transplantation

22 Histocompatibility and Corneal Transplantation
Völker-Dieben, H.J. (Amsterdam); Schreuder, G.M.Th.; Claas, F.H.J.; Doxiadis, I.I.N. (Leiden); Schipper, R.F. (Amstelveen); Pels, E. (Amsterdam); Persijn, G.G.; Smits, J.; D’Amaro, J. (Leiden)

42 HLA Class I and II Matching Improves Prognosis in Penetrating Normal-Risk Keratoplasty
Reinhard, T.; Böhringer, D.; Enczmann, J.; Kögler, G.; Mayweg, S.; Wernet, P.; Sundmacher, R. (Düsseldorf)

50 Individual Analysis of Expected Time on the Waiting List for HLA-Matched Corneal Grafts
Böhringer, D.; Reinhard, T.; Enczmann, J.; Godehard, E.; Sundmacher, R. (Düsseldorf)

56 Shortage in the Face of Plenty: Improving the Allocation of Corneas for Transplantation
de By, T.M.M.H. (Leiden)

62 Future HLA Matching Strategies in Clinical Transplantation
74 The Role of Minor Histocompatibility Alloantigens in Penetrating Keratoplasty
Streilein, J.W.; Arancibia-Caracamo, C.; Osawa, H. (Boston, Mass.)

89 A Clinician’s Outlook on HLA Matching for Keratoplasty
Sundmacher, R. (Düsseldorf)

98 Subject Index
Preface

The practical value of using HLA-matched grafts for corneal transplantation has been a matter of controversy from the beginning and the vast majority of corneal surgeons and directors of cornea banks still seem to believe that no proof exists that HLA matching may contribute significantly to transplant survival. Whereas in most clinical fields we can nowadays state that medical progress follows universal mainstream lines, this does not seem to be the case with HLA matching and corneal transplantation. A growing Central European group has worked out ways and rules how to achieve a significant contribution to long-term corneal transplant survival by HLA matching, while in other parts of the world, and also in the USA, these results seem to have been partly ignored or misjudged. On the occasion of the Meeting of the German Ophthalmological Society held in Berlin in September 2001, a group of ‘HLA promoters’ gathered to present and discuss their latest results. One of the main problems in understanding past developments in HLA lies in the fact that the literature is too diffuse, and therefore the information available to individual researchers is often inadequate. We thought it desirable to offer a compilation of some of the important aspects in this volume, to increase understanding and promote discussion. We hope this book will contribute to this aim, and extend the perception of HLA matching as a positive contributory factor in corneal transplants, provided it is properly understood and employed.

Rainer Sundmacher, Düsseldorf