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### Contents

**XIII Preface**
*U.R. Markert, Jena*

1 **The ‘Hatching’ of Reproductive Immunology**
*R. Kinský, Zdar nad Sazavou*

Cytokine Regulation and Signal Transduction in Pregnancy

3 **T Cells in Pregnancy**
*M.-P. Piccinni, Florence*

- Abstract
- Introduction
- Decidual T Cells
- Cumulus Oophorus T Cells
- Conclusion
- Acknowledgments
- References

10 **Physiological Role of IL-15 and IL-18 at the Maternal-Fetal Interface**
*G. Laskarin, N. Sirbo, T. Bogovic Crncic, K. Juretic, Rijeka; N. Ledee Bataille, G. Chaouat, Clamart; D. Rukavina, Rijeka*

- Abstract
- Interleukin 15
- Distribution of IL-15 and IL-15R at the Maternal-Fetal Interface
- Influence of IL-15 on Cytokine Production
26 The Possible Role of the JAK/STAT Pathway in Lymphocytes at the Fetomaternal Interface

T.G. Poehlmann, S. Busch, B. Mussil, H. Winzer, J. Weinert, I. Mebes, A. Schaumann, J.S. Fitzgerald, U.R. Markert, Jena

Abstract
Introduction
Lymphocytes at the Fetomaternal Interface
The JAK/STAT Pathway
Cytokines and Growth Factors in the Decidua with Capacity to Use the JAK/STAT Pathway
Signaling in T Cells
IL-4-Induced Signaling
IL-13-Induced Signaling
IL-10-Family-Induced Signaling
IL-12-Induced Signaling
IL-2-Induced Signaling
IFN-α/β- and IFN-γ-Induced Signaling
Suppressors of Cytokine Signaling
JAK/STAT Signaling in NK Cells
Conclusion
Acknowledgment
References

36 Tolerance Signaling Molecules

D.A. Clark, Hamilton

Abstract
Introduction
Tolerance Concepts
CD200-CD200R Interaction
What about Atypical Class I-b Molecules such as HLA-G and HLA-E?
What about Apoptosis-Inducing Molecules?
What about IDO?
References
49 Immunology of Preeclampsia
   L. Matthiesen, G. Berg, J. Ernerudh, C. Ekerfelt, Y. Jonsson, Linkoping;
   S. Sharma, Providence, R.I.

49 Abstract

49 Introduction

50 Clinical Preeclampsia

50 Trophoblast Invasion

52 Balancing Act between Inflammatory and Anti-Inflammatory Immune Responses

54 Cytokines and Preeclampsia

54 Transforming Growth Factor-β

54 Tumour Necrosis Factor-α

55 Interferon-γ

55 IL-10

55 Other Cytokines

56 Maternal-Fetal Interactions

56 Apoptosis and Syncytial Knots

57 Free Radicals

58 Lymphocyte Populations in Blood

58 Toxic Substances of Preeclampsia

59 Conclusion

59 Acknowledgment

59 References

62 TNF-α-Mediated Stress-Induced Early Pregnancy Loss:
   A Possible Role of Leukemia Inhibitory Factor
   A. Torchinsky, Tel Aviv; U.R. Markert, Jena; V. Toder, Tel Aviv

62 Abstract

62 Introduction

63 TNF-α as an Inducer of Embryonic Death

65 The Blastocyst and Uterus as Targets for TNF-α

66 Signaling between TNF-α and LIF

68 Conclusion

69 Acknowledgment

69 References

72 HLA Class I/NK Cell Receptor Interaction in Early Human Decidua
   basalis: Possible Functional Consequences
   M. Rabot, J. Tabiasco, B. Polgar, M. Aguerre-Girr, A. Berrebi, Toulouse;
   A. Bensussan, Créteil; N. Sirbo, D. Rukavina, Rijeka; P. Le Bouteiller, Toulouse

72 Abstract

72 Introduction

73 Unique Subsets of dNK Cells

74 Unique HLA Class I Expression of Fetal-Derived Invading Extravillous Cytotrophoblast

Antigen Presentation, HLA Expression, NK Cells and Lymphocytes

Contents VII
Psycho-Immuno-Endocrine Interactions

118 Progesterone-Dependent Immunomodulation
J. Szekeres-Bartho, B. Polgar, N. Kozma, E. Miko, G. Par, L. Szereday, A. Barakonyi, T. Palkovics, O. Papp, P. Varga, Pecs

Abstract
118 Progesterone-Induced Blocking Factor Mediates the Immunological Effects of Progesterone
119 Molecular Structure of PIBF
119 Biological Effects of PIBF
120 Cytokine Effects and Signal Transduction
121 PIBF Concentration in Pregnancy Urine Is Related to the Outcome of Pregnancy
122 PIBF Exerts an Antiabortive Effect in Mice
123 Acknowledgment
123 References

126 Regeneration and Tolerance Factor.
A Vacuolar ATPase with Consequences

Abstract
126 Introduction
127 IL-1 Cytokines and Pregnancy
127 RTF and Pregnancy
128 RTF Is a V-ATPase
129 P2X7 Ion Channels
129 RTF, Apoptosis and Cellular Activation
130 RTF and IL-1β
132 References

135 Nerve Growth Factor in Reproductive Biology: Link between the Immune, Endocrine and Nervous System?
M. Tometten, S. Blois, P.C. Arck, Berlin

Abstract
135 Introduction
136 Decidualization and NGF
138 Neurotrophins and Apoptosis at the Fetomaternal Interface
140 Fetal Antigenic Immaturity
140 Interactions between Neurotrophins and Progesterone
141 Indoleamine 2,3-Dioxygenase Expression and NGF
142 Adverse Pregnancy Outcome: Stress and Pregnancy Loss
143 Concluding Remarks
144 Acknowledgment
145 References
The Complement System and Humoral Immunity in Pregnancy

149 The Complement System at the Fetomaternal Interface
R. Bulla, F. Bossi, F. Fischetti, F. De Seta, F. Tedesco, Trieste

149 Abstract
149 Introduction
152 The Complement System
153 Deposition of Complement Components on Placentae in Physiological Pregnancies
154 Regulators of the Complement System in Human Placenta
155 Complement Deposition on Placentae in Pathological Pregnancies
156 Acknowledgment
156 References

158 Asymmetric Antibodies: A Protective Arm in Pregnancy
G. Gutierrez, T. Gentile, S. Miranda, R.A. Margni, Buenos Aires

158 Abstract
158 The Role of Asymmetric Antibodies
160 Asymmetric Antibodies and Pregnancy
161 The Synthesis of Asymmetric Antibodies and the Placenta
162 IL-6 and Asymmetric Antibodies
164 Intracellular Mechanisms of Asymmetric IgG Glycosylation
166 References
168 In Loving Memory

Conclusion

169 Lessons from Reproductive Immunology for Other Fields of Immunology and Clinical Approaches

169 Abstract
169 Tumor Immunology
170 Immune Escape through Modified Surface Characteristics
170 Immune Modulations via Soluble Substances
170 Invasion
170 Pregnancy-Malignancy Interactions
171 Microbiological Immunology
171 Parasites
171 Viruses
172 Pregnancy-Infection Interactions
172 Transplantation
172 Rejection Mechanisms
172 Antirejection Therapies

Contents
This book presents the discipline of immunology which studies a unique physiological phenomenon contradicting many of the generally established rules in the field: immunology of pregnancy. It provides a wide overview of the current research of this topic. Prominent and leading international groups contributed by reviewing the most significant findings in the field.

Pregnancy is the symbiosis of two allogeneic individuals which live in intimate contact. The maternal immune system reacts towards the foreign tissue, but instead of triggering rejection, it tolerates, supports and regulates its development. It controls efficiently and indispensably the formation of the placenta and thereby the development of the embryo and fetus. Many internal and external factors can provoke imbalances of the system, which may result in pregnancy disorders including infertility and abortions.

Leading scientists in the field present the latest findings on physiological mechanisms required for successful pregnancies and the respective pathologies. The regulation of maternal NK cells, T cells and dendritic cells through hormones, cytokines, complement system and HLA as well as other cell-surface molecules are described in detail.

Knowledge of the immunoregulatory processes of pregnancy is necessary to understand and treat a variety of disorders, which may lead to infertility, premature events, preeclamptic diseases and many other problems. The same knowledge can be used to gain insight into distant fields of immunology, where immunomodulatory mechanisms known from pregnancy are involved in pathologies, such as HLA-G or progesterone-induced blocking factor (PIBF) in tumor development, or in therapeutic approaches, such as in posttransplantation or allergy therapies.
This book presents fascinating facets of immunology, which may surprise those readers who are not yet familiar with the immunology of reproduction and which will update the knowledge of specialists.

The general political and public interest in the field is reflected by the establishment and support of a European Network of Excellence entitled EMBIC (Embryo Implantation Control; www.embic.org; 2004–2008), which is strongly supported by the European Union. Several of the authors of this book are partners of the EMBIC.

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