

Contents

1. A History of Amebiasis B.H. Kean	1
CELL BIOLOGY Section Editor: Louis H. Diamond	11
2. Phylogeny: The Relationship of <i>Entamoeba histolytica</i> to Morphologically Similar Amebae of the Four-Nucleate Cyst Group Ralph A. Neal	13
3. Cultivation of <i>Entamoeba histolytica</i> In Vitro Louis S. Diamond	27
4. The Morphology of <i>Entamoeba histolytica</i> William B. Lushbaugh and Joseph H. Miller	41
5. Metabolism of <i>Entamoeba histolytica</i> Eugene C. Weinbach	69
Section References	79
EPIDEMIOLOGY Section Editor: Julia A. Walsh	91
6. Prevalence of <i>Entamoeba histolytica</i> Infection Julia A. Walsh	93
7. Transmission of <i>Entamoeba histolytica</i> Infection Julia A. Walsh	106
Section References	120
PATHOPHYSIOLOGY Section Editor: Jonathan I. Ravdin	127
8. Pathology of Human Amebiasis M. Patricia Joyce and Jonathan I. Ravdin	129
9. Pathology of Experimental Amebiasis Victor Tsutsumi	147

10. Pathogenesis of Amebiasis: An Overview	166
Jonathan I. Ravdin	
11. In Vivo Models for Pathogenicity in Amebiasis	177
Eugene Meerovitch and Khrisendath Chadee	
12. In Vitro Models of Amebic Pathogenesis	191
William A. Petri, Jr. and Jonathan I. Ravdin	
13. Mechanisms of Adherence by <i>Entamoeba histolytica</i>	205
Jonathan I. Ravdin, William A. Petri, Jr., and David Mirelman	
14. Proteinases of <i>Entamoeba histolytica</i>	219
William B. Lushbaugh	
15. The Role of Amebic Phospholipases in Cytolysis of Target Cells by <i>Entamoeba histolytica</i>	232
Sharon A. Long-Krug and Jonathan I. Ravdin	
16. The Role of Calcium in Cytolysis of Target Cells by <i>Entamoeba histolytica</i>	251
Sharon A. Long-Krug and Jonathan I. Ravdin	
17. The Collagenase of <i>Entamoeba histolytica</i>	263
Marcos Rojkind, J. L. Rosales-Encina, and Maria L. Muñoz	
18. Ionophore Activity (Amebapore) of <i>Entamoeba histolytica</i>	273
Ian M. Rosenberg, D. Bach, L. M. Loew, and Carlos Gitler	
19. Secretagogues of <i>Entamoeba histolytica</i>: Role in Diarrhea	283
Katherine McGowan and Mark Donowitz	
20. Lysosomes and <i>Entamoeba histolytica</i>	297
Paul Schlesinger	
21. Virulence-related Properties in <i>Entamoeba histolytica</i>	314
Esther Orozco, Fidel de la Cruz Hernández, and Mario Alberto Rodriguez	
22. The Role of Phagocytosis in the Pathogenic Mechanism of <i>Entamoeba histolytica</i>	326
Esther Orozco, Mario Alberto Rodriguez, and Fidel de la Cruz Hernández	
23. Chemotaxis by <i>Entamoeba histolytica</i>	339
Gordon B. Bailey	
24. Ameba-Bacterial Relationship in Amebiasis	351
David Mirelman	
25. Zymodemes of <i>Entamoeba histolytica</i>	370
Peter G. Sargeant	
Section References	388

HOST IMMUNITY**423****Section Editor: Robert A. Salata**

- 26. In Vivo Models of Immunity in Amebiasis** **425**
Eugene Meerovitch and Khrisendath Chadee
- 27. Interaction of *Entamoeba histolytica* with Nonimmune and Immune Intestinal Defenses** **438**
Frances D. Gillin, David S. Reiner, and Asadour Zenian
- 28. The Role of Antibody in the Host Defense Against *Entamoeba histolytica*** **446**
Robert A. Salata
- 29. The Role of Complement in Host Defense Against *Entamoeba histolytica*** **453**
Jesús Calderón
- 30. The Interaction of Polymorphonuclear Neutrophils and *Entamoeba histolytica*** **464**
Robert A. Salata and Jonathan I. Ravdin
- 31. Human Cell-mediated Immune Mechanisms Directed Against *Entamoeba histolytica*** **471**
Robert A. Salata and Jonathan I. Ravdin

Section References**480****CLINICAL DISEASE SYNDROMES:****DIAGNOSTIC PROFILE, TREATMENT REGIMENS****493****Section Editor: Jonathan I. Ravdin**

- 32. Intestinal Disease Caused by *Entamoeba histolytica*** **495**
Jonathan I. Ravdin
- 33. Extraintestinal Disease: Clinical Syndromes, Diagnostic Profile, and Therapy** **511**
Sharon L. Reed and Abraham I. Braude

CLINICAL DISEASE SYNDROMES:**SPECIAL CIRCUMSTANCES IN PRESENTATION AND MANAGEMENT****533****Section Editor: Jonathan I. Ravdin**

- 34. Amebiasis in the Developing World** **535**
Kamal N. Jalan and Tushar K. Maitra
- 35. Amebiasis in Travelers** **556**
Richard D. Pearson and Erik L. Hewlett

36. <i>Entamoeba histolytica</i> Infections in Homosexual Men	563
Dolph A. Druckman and Thomas C. Quinn	
37. Amebiasis in Institutionalized Populations	576
William A. Petri and Jonathan I. Ravdin	
38. Differentiation and Occurrence of Amebiasis in Inflammatory Bowel Disease	582
Charles J. Schleupner and A. Sidney Barritt III	
39. Amebiasis in the Pediatric Population	594
George Fuchs, Guillermo Ruiz-Palacios, and Larry K. Pickering	
Section References	614

DIAGNOSTIC METHODOLOGY

Section Editor: **George R. Healy**

40. Diagnostic Techniques for Stool Samples	635
George R. Healy	
41. Serology	650
George R. Healy	
42. Imaging in Hepatic Amebic Abscess	664
Philip W. Ralls, Patrick M. Colletti, and James M. Halls	
Section References	705

PHARMACOLOGY OF ANTIAMEBIC DRUGS

Section Editor: **Donald J. Krogstad**

43. In Vitro Antiamebic Drug Activity	723
Jose R. Cedeño and Donald J. Krogstad	
44. The Pharmacology of Antiamebic Drugs	734
Sandra M. Norris and Jonathan I. Ravdin	
45. Problems with Current Therapeutic Regimens	741
Donald J. Krogstad and Jose R. Cedeño	
Section References	749

PREVENTION AND RESEARCH NEEDS

Section Editor: **Richard L. Guerrant**

46. Eradication of Amebiasis: Extent of the Problem and Research Needs	759
Richard L. Guerrant and Jonathan I. Ravdin	

47. Cyst Formation in *Entamoeba* 768
David Mirelman and Boaz Avron

48. Pharmacologic Prophylaxis and Mass Therapy 782
Julia A. Walsh

49. Immunoprophylaxis 785
Robert A. Salata and Jonathan I. Ravdin

50. Future Directions in Research on Amebiasis 793
Jonathan I. Ravdin and Richard L. Guerrant

Section References 802

INDEX 813