

TABLE OF CONTENTS

Clinical Atlas of Small Animal Cytology and Hematology, 2nd Edition

Preface

Acknowledgments

1 Cytology Sampling and Preparation 1

1.1 Cytology 1

1.2 Sample Collection and Preparation 1

1.3 Sample Staining 7

1.4 Sample Handling and Storage 8

2 Cytologic Analysis of Cells 11

2.1 Approach to Cytology Samples 11

2.2 Sample Quality and Background 11

2.3 Cell Types 15

2.4 Cell Shape, Distribution, and Features 29

2.5 Benign Versus Malignant 30

3 Infectious Agents 45

3.1 Fungi 45

3.2 Oomycetes 56

3.3 Algae 56

3.4 Mesomycetozoea 58

3.5 Protozoa 58

3.6 Helminths 65

3.7 Bacteria 69

3.8 Ectoparasites 75

4 Integument 85

4.1 Cutaneous and Subcutaneous Lesions 85

5 Hemolymphatic 139

5.1 Lymph Nodes 139

5.2 Spleen 153

5.3 Thymus 167

5.4 Bone Marrow 170

6 Body Cavity Fluids 193

6.1 General Classification 193

6.2 Specific Effusions 197

7 Musculoskeletal 211

7.1 Bone 211

7.2 Joints 219

7.3 Muscle 226

8 Hepatobiliary 235

8.1 Liver 235

8.2 Biliary Tract 250

9 Digestive System 255

9.1 Salivary Glands 255

9.2 Stomach/Intestines 258

9.3 Feces 267

9.4 Pancreas 272

10 Urinary 285

10.1 Kidney 285

10.2 Bladder 291

10.3 Urine 294

10.4 Urinary Crystals 298

10.5 Urinary Casts 303

11 Respiratory 311

11.1 Nasal Cavity 311

11.2 Lung 317

11.3 Bronchoalveolar Lavage/Transtracheal Wash 320

12 Endocrine 331

12.1 Thyroid 331

12.2 Parathyroid 335

12.3 Chemoreceptor Tumors 336

12.4 Adrenal Gland 338

12.5 Pituitary Gland 340

13 Reproductive 345

Male 345

13.1 Testes 345

13.2 Semen Analysis 350

13.3 Prostate 350

13.4 Penis 358

Female 358

13.5 Ovary 358

13.6 Mammary Glands 361

13.7 Vaginal Cytology 366

14 Neurologic 379

14.1 Brain 379

14.2 Cerebrospinal Fluid 386

14.3 Spinal Cord 400

15 Ocular and Special Senses 405

15.1 Eyes: Cornea 405

15.2 Eyes: Conjunctiva 409

15.3 Ears 412

16 Blood Smear Preparation and Evaluation 421

16.1 The Importance of Blood Smear Evaluation 421

16.2 Making a Blood Smear 421

16.3 Blood Smear Staining and Handling 425

16.4 Blood Smear Evaluation 427

16.5 Hematology Procedures and Techniques 430

17 Erythrocytes 433

17.1 Approach to Evaluating Red Blood Cells 433

17.2 Red Blood Cell Distribution 433

17.3 Red Blood Cell Morphology 438

17.4 Red Blood Cell Inclusions 456

17.5 Red Blood Cell Neoplasia 461

17.6 Red Blood Cell Infectious Agents 462

18 Leukocytes 475

18.1 Approach to Evaluating Leukocytes 475

18.2 Neutrophils 476

18.3 Neutrophil Inclusions 484

18.4 Eosinophils 488

18.5 Basophils 489

- 18.6 Mast Cells 491
- 18.7 Monocytes 492
- 18.8 Lymphocytes 495
- 18.9 Leukocyte Neoplasia 498
- 18.10 Leukocyte Infectious Agents 504

19 Platelets 515

- 19.1 Approach to Evaluating Platelets 515
- 19.2 Platelet Distribution 515
- 19.3 Platelet Morphology 518
- 19.4 Platelet Neoplasia 522
- 19.5 Platelet Infectious Agents 524

20 Background Features and Miscellaneous Cells 527

- 20.1 Approach to Blood Smear Background Features 527
- 20.2 Acellular Elements 527
- 20.3 Miscellaneous Cells 528
- 20.4 Infectious Agents 533
- References 536
- Index 537.