#### ORIGINAL REPORT

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# Correlations between clinical signs and corneal cytology in feline eosinophilic keratoconjunctivitis

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Objective: To assess correlations between clinical and cytological features of feline eosinophilic keratoconjunctivitis at the time of cytological diagnosis.

Animals Studied: Fifteen client-owned, domestic breed cats (18 eyes) examined between 2007 and 2019.

Procedures: An electronic search and medical record review of cats diagnosed with feline eosinophilic keratitis or keratoconjunctivitis (FEK) based on clinical examination findings and eosinophils detected on corneal cytology were conducted. Clinical severity was graded using a modified version of a previously validated semiquantitative preclinical ocular toxicology scoring (SPOTS) system. Clinical grades were assigned following review of clinical images and medical record descriptions, and cytological grades were assigned following review of archived corneal cytology slides. Correlations were analyzed for significance using Spearman's rank correlation coefficient.

Results: Higher total corneal scores correlated with higher total conjunctival scores. but not with total fluorescein scores. Small lymphocyte scores correlated negatively with scores for collagen degeneration or mineralization. Globale leukocytes, a unique cell type not previously described in ocular cytology, were identified in 4 of 18 cytological samples. Higher globule leukocyte scores were correlated with higher scores for mast cells or plasma cells. Specimens with lower eosinophil scores had higher globule leukocyte scores.

Conclusions: Large variability was detected in the cytological characteristics and clinical features of FEK-affected cats. This is the first report of globule leukocytes being identified in ocular cytology from any species. The role of globule leukocytes in the etiopathogenesis and progression of FEK remains unknown and warrants further investigation.

#### KEYWORDS

cornea, feline, feline eoxinophilic keratitis, feline eoxinophilic keratoconjunctivitis, globule loukocyte, hypersensitivity

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# **Cytology Diagnosis Principals And Clinical Correlations**

**Prabodh Gupta, Zubair Baloch** 

#### **Cytology Diagnosis Principals And Clinical Correlations:**

Cytology E-Book Edmund S. Cibas, Barbara S. Ducatman, 2019-12-05 Concise yet comprehensive Cytology Diagnostic Principles and Clinical Correlates is a practical guide to the diagnostic interpretation of virtually any cytological specimen you may encounter This highly useful bench manual covers all organ systems and situations in which cytology is used including gynecologic non gynecologic and FNA samples with an in depth differential diagnosis discussion for all major entities As with previous editions the revised 5th Edition focuses on practical issues in diagnosis and the use of cytology in clinical care making it ideal for both trainee and practicing pathologists Uses easy to read bulleted text to provide a guick review of key differential diagnoses indications and methods cytomorphologic features clinical pearls and tissue acquisition protocols for specific entities Includes coverage of patient management in discussions of pertinent clinical features and emphasizes clinical correlation throughout Examines the role of immunohistochemistry flow cytometry and molecular biology in resolving difficulties in interpretation and diagnosis Features more than 550 full color illustrations that provide a real life perspective of a full range of cytologic findings Discusses hot topics such as new diagnostic biomarkers and their utility in differential diagnosis the latest Bethesda System classifications terminology new techniques and new adjunct tests Provides an in depth analysis of common diagnostic pitfalls to assist with daily sign out and reporting Includes a video on how to perform fine needle aspiration biopsy from the patient interview and precautions to demonstration of techniques Enhanced eBook version included with purchase Your enhanced eBook allows you to access all of the text figures and references from the book on a variety of devices Cytology Edmund S. Cibas, Barbara S. Ducatman, 2009 This new edition examines the latest diagnostic techniques for the interpretation of a complete range of cytological specimens It is concise yet covers all of the organ systems in which the procedure is used with the number of pages devoted to each body site proportional to the clinical relevance of cytology for that site Inside you ll find new information on ductal lavage cytology and expanded coverage of FNA performance keeping you current with the newest procedures Over 700 full color illustrations provide you with a real life perspective of a full range of cytologic findings Each chapter includes a discussion of indications and methods along with a section on differential diagnosis accompanied by ancillary diagnostic techniques such as immunohistochemistry and molecular biology where appropriate As an Expert Consult title it includes online access to the complete text of the book fully searchable as well as all of the images downloadable for your personal use at www expertconsult com We like this book and use it frequently thank you Dr CibasReviewed by PathLab org Date June 2014 Offers comprehensive coverage of everyday diagnostic work in a concise format for a practical benchside manual Covers every type of cytology gynecology non gynecology and FNA Presents an in depth differential diagnosis discussion for all major entities Examines the role of special techniques such as immunohistochemistry flow cytometry and molecular biology in resolving difficulties in interpretation and diagnosis Provides an in depth analysis of common diagnostic pitfalls to assist with daily signing out and reporting Features

coverage of patient management in discussions of pertinent clinical features Uses capsule summaries featuring easy to read bulleted text that provide a quick review of key differential diagnoses diagnostic pitfalls cytomorphologic features and tissue acquisition protocols for specific entities Includes over 700 full color illustrations that provide you with a real life perspective of a full range of cytologic findings Features anytime anywhere online access to the complete text of the book fully searchable as well as all of the images downloadable for your personal use at www expertconsult com Covers automated cytology and HPV testing in Cervical and Vaginal Cytology chapter providing an up to date reference on the techniques used in today s labs Offers new information on ductal lavage cytology and expanded coverage of FNA performance keeping you current with the newest procedures Discusses the implementation of proficiency testing and changes in laboratory inspection and accreditation Includes recommendations from the 2008 National Cancer Institute Thyroid Fine Needle Aspiration State of the Science Conference Cytology E-Book Edmund S. Cibas, Barbara S. Ducatman, 2013-12-23 Take advantage of comprehensive yet concise coverage of nearly every type of cytology including gynecologic non gynecologic and FNA Understand the clinical implications of your diagnoses and better equip yourself to make effective interpretations with clinical correlations emphasized throughout Make the most informed reporting decisions through an in depth analysis of common diagnostic pitfalls Quickly find the answers you need with succinct bulleted text valuable clinical pearls and useful summaries of key points Gain real life perspective on a complete range of cytologic findings with over 700 crystal clear full color illustrations Access expert knowledge and key insights into HPV testing new billing and coding guidelines patient management discussions and much more thanks to comprehensive updates throughout See how to perform fine needle biopsy aspiration with a new 17 minute video available at Expert Consult Narrated by pathologist Dr Amy Ly the video includes a patient interview precautions and demonstrations of techniques Cytology Edmund S. Cibas, Barbara S. Ducatman, 2003 Cibas pathology Harvard Medical School and Ducatman pathology West Virginia University provide practicing and trainee pathologists with a guide to diagnostic interpretation of cytological specimens with chapters devoted to various and organ systems Coverage includes the use of special techniques such as immunohistochemistry flow cytometry and molecular biology as well as indications methods and diagnostic pitfalls for various conditions Color medical images are included This second edition features new chapters on soft tissue methods and laboratory management Annotation c 2003 Cibas and Ducatman's Cytology Edmund S. Cibas, Barbara S. Book News Inc Portland OR booknews com Ducatman, 2025-06 An ideal resource for both trainee and practicing pathologists Cibas and Ducatman's Cytology Diagnostic Principles and Clinical Correlates 6th Edition is a practical well illustrated guide to the diagnostic interpretation of virtually any cytological specimen you may encounter Concise yet comprehensive this highly useful bench manual covers all organ systems and situations in which cytology is used including gynecologic non gynecologic and FNA samples with an in depth differential diagnosis discussion for all major entities Now fully revised from cover to cover it continues to focus on practical

issues in diagnosis and the use of cytology in clinical care Uses easy to read bulleted text to provide a quick review of key differential diagnoses indications and methods cytomorphologic features clinical pearls and tissue acquisition protocols for specific entities Incorporates key updates throughout including new diagnostic biomarkers and their utility in differential diagnosis the latest Bethesda System classifications and terminology updated material on billing and coding new techniques new adjunct tests and more Features hundreds of full color illustrations that provide a real life perspective of a full range of cytologic findings as well as numerous summary tables and flow charts for quick reference Includes coverage of patient management in discussions of pertinent clinical features and emphasizes clinical correlation throughout Examines the role of immunohistochemistry flow cytometry and molecular biology in resolving difficulties in interpretation and diagnosis Provides an in depth analysis of common diagnostic pitfalls to assist with daily sign out and reporting Includes a video on how to perform fine needle aspiration biopsy from the patient interview and precautions to demonstration of techniques An eBook version is included with purchase The eBook allows you to access all of the text figures and references with the ability to search customize your content make notes and highlights and have content read aloud Additional digital ancillary content may publish up to 6 weeks following the publication date Cytology E-Book Edmund S. Cibas, Barbara S. Ducatman, 2009-01-20 This new edition examines the latest diagnostic techniques for the interpretation of a complete range of cytological specimens It is concise yet covers all of the organ systems in which the procedure is used with the number of pages devoted to each body site proportional to the clinical relevance of cytology for that site Inside you ll find new information on ductal lavage cytology and expanded coverage of FNA performance keeping you current with the newest procedures Over 700 full color illustrations provide you with a real life perspective of a full range of cytologic findings Each chapter includes a discussion of indications and methods along with a section on differential diagnosis accompanied by ancillary diagnostic techniques such as immunohistochemistry and molecular biology where appropriate Offers comprehensive coverage of everyday diagnostic work in a concise format for a practical benchside manual Covers every type of cytology gynecology non gynecology and FNA Presents an in depth differential diagnosis discussion for all major entities Examines the role of special techniques such as immunohistochemistry flow cytometry and molecular biology in resolving difficulties in interpretation and diagnosis Provides an in depth analysis of common diagnostic pitfalls to assist with daily signing out and reporting Features coverage of patient management in discussions of pertinent clinical features Uses capsule summaries featuring easy to read bulleted text that provide a quick review of key differential diagnoses diagnostic pitfalls cytomorphologic features and tissue acquisition protocols for specific entities Includes over 700 full color illustrations that provide you with a real life perspective of a full range of cytologic findings Covers automated cytology and HPV testing in Cervical and Vaginal Cytology chapter providing an up to date reference on the techniques used in today s labs Offers new information on ductal lavage cytology and expanded coverage of FNA performance keeping you current with the newest

procedures Discusses the implementation of proficiency testing and changes in laboratory inspection and accreditation Includes recommendations from the 2008 National Cancer Institute Thyroid Fine Needle Aspiration State of the Science Differential Diagnosis in Cytopathology Book and Online Bundle Paolo Gattuso, Vijaya B. Reddy, Shahla Masood, 2014-12-04 This updated edition remains the essential text for pathologists seeking to make accurate diagnoses from the vast number of differentials Diagnostic Cytopathology E-Book Winifred Gray, Gabrijela Kocjan, 2010-05-24 This edition stresses not just the diagnostic cytological features of the various conditions encountered but also the diagnostic pitfalls and the grey areas between so as to enable the reader to give more evidence based reports In recognition of their rapid expansion there are new chapters on recent technological developments and on the cytodiagnosis of childhood tumours A special section on the importance of multidisciplinary team meetings that include the cytopathologist as a core member of the team has also been included at the end of each chapter As active members of this team cytopathologists can define their role in the management pathway and thus bring the patient and the microscope together as never before The full text can be accessed online and images downloaded via Expert Consult Cibas and Ducatman's Cytology E-Book Edmund S. Cibas, Barbara S. Ducatman, 2025-02-16 Selected for 2025 Doody's Core Titles in Pathology An ideal resource for both trainee and practicing pathologists Cibas and Ducatman's Cytology Diagnostic Principles and Clinical Correlates 6th Edition is a practical well illustrated guide to the diagnostic interpretation of virtually any cytological specimen you may encounter Concise yet comprehensive this highly useful bench manual covers all organ systems and situations in which cytology is used including gynecologic non gynecologic and FNA samples with an in depth differential diagnosis discussion for all major entities Now fully revised from cover to cover it continues to focus on practical issues in diagnosis and the use of cytology in clinical care Uses easy to read bulleted text to provide a quick review of key differential diagnoses indications and methods cytomorphologic features clinical pearls and tissue acquisition protocols for specific entities Incorporates key updates throughout including new diagnostic biomarkers and their utility in differential diagnosis the latest Bethesda System classifications and terminology updated material on billing and coding new techniques new adjunct tests and more Features hundreds of full color illustrations that provide a real life perspective of a full range of cytologic findings as well as numerous summary tables and flow charts for quick reference Includes coverage of patient management in discussions of pertinent clinical features and emphasizes clinical correlation throughout Examines the role of immunohistochemistry flow cytometry and molecular biology in resolving difficulties in interpretation and diagnosis Provides an in depth analysis of common diagnostic pitfalls to assist with daily sign out and reporting Includes a video on how to perform fine needle aspiration biopsy from the patient interview and precautions to demonstration of techniques Any additional digital ancillary content may publish up to 6 weeks following the publication date Color Atlas of Differential Diagnosis in Exfoliative and Aspiration Cytopathology Sudha R. Kini, 2012-03-29 The primary thrust of this atlas is a comparison between different diagnostic

entities with cytologic findings summarized in tabulated forms The book contains over 3 200 full color photographs that illustrate the criteria for the cytology described The Color Atlas of Differential Diagnosis in Exfoliative and Aspiration Cytopathology is an excellent reference for everyday use when difficult and challenging cases face both cytotechnologists and pathologists A tabulated form of information saves valuable time while reporting cytopathology Behdad Shambayati, 2018 Cytopathology provides a wide ranging overview of the microscopic study of normal and abnormal cells showing how current visualization methods are used to study cell structure and how early detection of abnormal cell pathology can lead to timely clinical interventions Urologic Surgical Pathology E-Book Liang Cheng, David G. Bostwick, 2008-06-25 Completely revised with practical guidance in daily urological pathology sign out and the latest recommended diagnostic approaches the new edition of this comprehensive reference equips you to accurately diagnose specimens of the entire urinary tract and male reproductive system plus the adrenal glands It begins with a look at normal anatomy and histology for each organ system followed by discussions of the pathology of congenital anomalies inflammations non neoplastic diseases and neoplasia An emphasis on clinicopathologic and radiographic pathologic correlations makes this a true diagnostic decision making guide A consistent format enables you to locate critical information guickly and morethan 1500 high quality illustrations most in full color make diagnosis even easier Presents the practice proven experience of today s authorities to enable you to diagnose with confidence Limits coverage of general mechanisms of disease and anatomy to the most relevant information needed to fully comprehend the clinical picture Includes boxed lists of types and causes of diseases differential diagnosis characteristic features of diseases complications classifications and staging that help you guickly locate the specific information you need Presents two brand new chapters covering urinary cytology and fine needle aspiration to keep you up to date Covers newly described entities and application of ancillary study for precise diagnosis Features integration of new molecular techniques and immunohistochemical analysis for differential diagnosis Equips you with the latest recommended diagnostic approaches help you make the most informed decisions Provides you with a critical review of the current classifications of cancer and disease Features more than 1500 high quality illustrations in full color providing a complete visual perspective of the conditions encountered in pathology **Veterinary Cytology** Leslie C. Sharkey, M. Judith Radin, Davis M. Seelig, 2020-10-27 This book offers a state of the art evidence based reference to all aspects of veterinary cytology Truly multidisciplinary in its approach chapters are written by experts in fields ranging from clinical pathology to internal medicine surgery ophthalmology and dermatology drawing the various specialties together to create a comprehensive picture of cytology s role in diagnosis and treatment of animal disease Firmly grounded in the primary literature the book focuses on companion animals with special chapters for species with fewer publications Chapters are logically organized by body system with additional chapters on tumors of particular import and diagnostic decision making The first two sections of Veterinary Cytology focus on cytology techniques quality control and special laboratory techniques

Subsequent sections are organ tissue based and reflect what is known about the canine feline and equine species This is followed by chapters on non traditional species including exotic companion mammals rabbits cattle camelids non human primates reptiles and birds amphibians fish invertebrates and sheep and goats The last section highlights some unique features of the applications of cytology in industry settings Provides a gold standard reference to data driven information about cytologic analysis in companion animal species Brings together authors from a wide range of specialties to present a thorough survey of cytology s use in veterinary medicine Offers broader species coverage and greater depth than any cytology reference currently available Veterinary Cytology is an essential resource for clinical and anatomic pathologists and any specialist in areas using cytology including veterinary oncologists criticalists surgeons ophthalmologists dermatologists and internists The Milan System for Reporting Salivary Gland Cytopathology William C. Faquin, Esther Diana Rossi, Zubair Baloch, Güliz A. Barkan, Maria Pia Foschini, Daniel F.I. Kurtycz, Marc P. Pusztaszeri, Philippe Vielh, 2023-06-26 The Second Edition of The Milan System for Reporting Salivary Gland Cytopathology like the First Edition represents a collaborative effort by a multidisciplinary group of cytopathologists surgical pathologists molecular pathologists radiologists and head and neck surgeons This international group shares the goal of creating a practical and uniform reporting system for salivary gland fine needle aspiration FNA This book is organized into six general diagnostic categories Non Diagnostic Non Neoplastic Atypia of Undetermined Significance AUS Neoplasm Benign Neoplasm Salivary Gland Neoplasm of Uncertain Malignant Potential SUMP Suspicious for Malignancy and Malignant It includes definitions morphologic criteria and explanations for each of the diagnostic categories Specific chapters are dedicated to the application of the latest available ancillary studies radiologic features of salivary gland lesions clinical management and histological considerations including updates from the most recent 5th Edition WHO blue book The Milan System for Reporting Salivary Gland Cytopathology 2nd Edition represents an essential step towards increasing the overall effectiveness of salivary gland FNA and fostering better communication between clinicians and between institutions to improve overall patient care The Bethesda System for **Reporting Cervical Cytology** Ritu Nayar, David C. Wilbur, 2015-04-13 This book offers clear up to date guidance on how to report cytologic findings in cervical vaginal and anal samples in accordance with the 2014 Bethesda System Update The new edition has been expanded and revised to take into account the advances and experience of the past decade A new chapter has been added the terminology and text have been updated and various terminological and morphologic questions have been clarified In addition new images are included that reflect the experience gained with liquid based cytology since the publication of the last edition in 2004 Among more than 300 images some represent classic examples of an entity while others illustrate interpretative dilemmas borderline cytomorphologic features or mimics of epithelial abnormalities The Bethesda System for Reporting Cervical Cytology with its user friendly format is a must have for pathologists cytopathologists pathology residents cytotechnologists and clinicians Lymph Node FNC P. Zeppa,I.

Cozzolino, 2017-11-14 This well illustrated monograph presents a comprehensive description of Fine Needle Cytology FNC including technical procedures and ancillary techniques applied to the lymph node LN Possibilities and limitations are highlighted to produce accurate cytological diagnosis of LN and cytological criteria and to be exploited for extra nodal lymphoproliferative processes The normal LN structure and corresponding cytological patterns are described Cytological phenotypical and molecular features are reviewed along with diagnostic criteria for various medical conditions such as lymphadenitis and lymphadenopathies Hodgkin and Non Hodgkin lymphoma pediatric lymphoadenopaties immunodeficiency associated lymphoproliferative disorders extra nodal lymphoproliferative processes metastases and other non lymphomatous processes LN FNC requires knowledge of hemathopathology and imaging techniques as well as dexterity with FNC performing smearing and material management Rapid on site evaluation ROSE the choice of ancillary techniques and molecular procedures case by case are required to produce accurate and comprehensive diagnosis This book will help cytopathologists to conduct these tasks in various organs and clinical contexts LN FNC requires knowledge of hemathopathology and imaging techniques as well as dexterity with FNC performing smearing and material management Rapid on site evaluation ROSE the choice of ancillary techniques and molecular procedures case by case are required to produce accurate and comprehensive diagnosis This book will help cytopathologists to conduct these tasks in various organs Pulmonary Pathology E-Book Dani S. Zander, Carol F. Farver, 2008-07-02 This volume in the and clinical contexts Foundations in Diagnostic Pathology Series packs today s most essential pulmonary pathology into a compact high yield format It covers both common and rare neoplastic and non neoplastic diseases of the lung and pleura and focuses primarily on diagnosis with correlations to clinical and radiographic characteristics. Its pragmatic well organized approach abundant full color illustrations and at a glance boxes and tables make the information you need easy to access Practical and affordable this resource is ideal for study and review as well as everyday clinical practice Detailed discussions on today s technologies help you select the best test for case evaluation Chapters devoted to the techniques used in the assessment of pulmonary diseases including immunohistochemistry immunofluorescnece and certain clinical laboratory tests offer you a better understanding of techniques and their application for the diagnosis of lung disease Internationally recognized pathologists convey the most current information keeping you on the cusp of your field More than 800 photomicrographs and gross photographs most in full color present important pathologic features enabling you to form a differential diagnosis and compare your findings with actual cases Uses a consistent user friendly format including at a glance boxes and tables for Atlas of Cytopathology and Radiology Ritu Nayar, Xiaoqi Lin, Ajit S. Paintal, Ramona Gupta, Albert A. easy reference Nemcek Jr., 2019-11-04 The aim of this atlas is to guide pathologists and radiologists in the accurate triage and diagnosis of deep seated mass lesions biopsied under ultrasound CT Scan or fluoroscopic guidance Fine needle aspiration cytology has become the foremost diagnostic modality in recent years for the diagnosis of mass lesions including primary and recurrent

neoplasms and masses of non neoplastic and infectious etiology An essential requirement in the accurate diagnosis of these masses is the correlation of cytomorphology with the radiological findings and adequate triage of acquired material during the biopsy procedure The cytologic appearance fine needle aspiration smears touch preparations cell blocks and core biopsy gross surgical resected specimen where available on follow up and imaging findings will be illustrated to provide a complete pathologic radiologic correlation of the entities discussed Collection methods and correlation with ancillary studies such as flow cytometry microbiologic cultures cytogenetics and immunohistochemistry will be described The importance of specimen type and cytologic and radiologic techniques will be emphasized Cytohistology with CD-ROM Prabodh Gupta, Zubair Baloch, 2011-02-17 This book represents the essentials of diagnostic cytopathology Clinical research has confirmed the efficacy of the cytologic method of disease diagnosis and it is now considered the definitive method for identifying a wide array of malignancies Cytohistology Essentials and Basic Concepts comprehensively covers all the morphologic variations and landmarks in cells that can potentially signal disease Morphologies in cancer are the primary focus but all potential changes in infectious and inflammatory disorders are also covered in detail There is a separate section on molecular and other ancillary diagnostic techniques in cytopathology Conceptual drawings presented in a pansystemic approach and incorporating state of the art techniques show basic cytomorphologic features essential for interpretation of cytopathology specimens Diagnostic pitfalls and challenging intellectual nuggets are also presented A supplementary CD with images in a downloadable format is included Atlas of Non-Gynecologic Cytology Xin Jing, Momin T. Siddiqui, Qing Kay Li,2018-06-30 Cytology is a unique subspecialty in anatomic pathology and plays a critical role in the diagnosis of a variety of benign and malignant lesions by using minimally invasive procedures such as fine needle aspiration brushing washing and lavage Cytology not only provides an accurate diagnosis of the lesion based on the cytomorphological evaluation at cellular level but also provides material for molecular characterization of a tumor for targeted therapy In the era of personalized medicine cytology has continued to grow and evolve as an important diagnostic tool For example some types of procedures are routinely used diagnostic criteria have become more refined and certain terminology has been changed based on current WHO classifications Therefore it is necessary to update our knowledge and terminology in cytology In this volume we have retained the quality and the clarity of the series and like the other volumes this volume aims to be concise and comprehensive yet clinically relevant to daily practice Although this volume is written by multiple authors all chapters follow a similar format brief introduction of the specific organ system including types of specimens and techniques to obtain samples description of normal findings and a practice approach to diagnose benign and malignant lesions In each chapter the key cytomorphological feature and main differential diagnoses of the lesion are summarized in a concise table Images in each chapter are instructive and clearly represent findings Where necessary we have also illustrated the important ancillary tests such as flow cytometry immunohistochemistry and molecular analysis which are crucial for an accurate diagnosis and

targeted therapy The updated knowledge including key cytomorphological features current terminology and molecular diagnostic tests is the highlight of this volume

### Cytology Diagnosis Principals And Clinical Correlations Book Review: Unveiling the Magic of Language

In an electronic era where connections and knowledge reign supreme, the enchanting power of language has be apparent than ever. Its capability to stir emotions, provoke thought, and instigate transformation is actually remarkable. This extraordinary book, aptly titled "Cytology Diagnosis Principals And Clinical Correlations," published by a highly acclaimed author, immerses readers in a captivating exploration of the significance of language and its profound affect our existence. Throughout this critique, we shall delve into the book is central themes, evaluate its unique writing style, and assess its overall influence on its readership.

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#### **Cytology Diagnosis Principals And Clinical Correlations Introduction**

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