

A Textbook of  
**ORAL PATHOLOGY**

SHAHER HINE LEVY

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# **A Textbook of Oral Pathology**

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# PREFACE

## to the Fourth Edition

The explosion of scientific knowledge and technology which occurred within the past few decades has reached out to leave its impact on all branches of the healing disciplines, including dentistry. Thus the practice of dentistry today is as different from its practice 30 years ago as the microcomputer today is from the abacus centuries ago. Furthermore, the practice of dentistry in the year 2000 will be as unlike practice today as the computer of today will be unlike that instrument of the next century.

Oral pathology was in its infancy when the first edition of this textbook was published in 1958, having been recognized as a specialty of dentistry by the American Dental Association for only about 10 years. Our knowledge in this area was limited and patchy, and had incredible voids. What knowledge we did possess was due largely to the determined efforts of a very few pioneers, often working alone, who tried to assemble our meager knowledge into some semblance of scientific order. On this foundation, our comprehension of oral disease has been accumulating at a nearly logarithmic pace. This has been achieved through the efforts of an increasing number of individuals who have devoted their professional careers to this field. Their research, utilizing and applying the burgeoning advances made possible in other fields and ranging from cytogenetics and molecular biology to ultrastructural physiology and immunohistochemistry, has contributed significantly to recent knowledge in oral pathology.

As has been pointed out previously, although the dentist is still dependent upon technical skills, the increasing emphasis on a biologic orientation in dental practice has underscored the necessity for both the general practitioner and the specialist to have a working knowledge of oral pathology. The broadening parameters of prevention of oral disease and maintenance of oral health make it no longer sufficient or acceptable for the dentist to be concerned with only the repair of past dental problems. He now needs a sufficiently thorough scientific background as well as the knowledge to permit him to examine the patient, evaluate the various findings, draw a definitive diagnostic conclusion and institute proper treatment. The authors' intention here is to provide the reader with an appreciation of the importance of understanding the etiology and pathogenesis of oral diseases as well as to supply the knowledge itself. We have attempted to stress those disease

processes which are encountered most frequently in clinical practice or which illustrate an important pathologic concept. Space limitation has necessitated omitting or treating briefly some areas of oral pathology that might be considered important. Some relatively rare entities have been included because of fundamental concepts which they may illuminate. Decisions have been made conscientiously but will obviously differ from those that might have been made by others.

To those familiar with the previous edition of this book, an increase in content will be apparent. This is a necessity because of the advances discussed. In addition, there are many alterations in ideas and concepts consistent with changes conceived since the last edition. We have attempted to deal with current knowledge in a broad, encompassing yet succinct fashion, the principal consideration being the needs of the student and also of the dental practitioner.

THE AUTHORS

# ACKNOWLEDGMENTS

Many persons have contributed unselfishly their time, special talents, knowledge and illustrative material to aid in the completion of this book. Those allowing free use of their illustrations have been credited in the legends for the particular figures, and grateful acknowledgment is once again made here. In addition, special acknowledgment must be made to numerous individuals for use of their excellent material in the preparation of the color plates. Of many hundreds of clinical color photographs reviewed, very few were of a quality sufficient to warrant their duplication in color. The authors expressly wish to thank the following individuals for permission to use their material: Dr. George G. Blozis, one illustration in Plate VII; Dr. Stephen F. Dachi, eleven illustrations in Plates II, III, IV, V and VI; Dr. Warren B. Davis, one illustration in Plate IV; Dr. Thomas B. Fast, one illustration in Plate IV; Dr. John R. Mink, one illustration in Plate IV; Dr. David F. Mitchell, four illustrations in Plates I, II and III; Dr. Wilbur C. Moorman, one illustration in Plate VII; Dr. Gil Small, one illustration in Plate II; Dr. S. Miles Standish, two illustrations in Plates I and IV; and Dr. Henry M. Swenson, two illustrations in Plate VII.

Various chapters and sections of the text have been read, criticized and corrected by persons with a particular interest in certain areas of pathology, and to them are extended sincere thanks. These include Drs. Sumter S. Arnim, David Bixler, Manuel G. Bloom, Boynton H. Booth, Charles Burstone, Samuel Dreizen, Harris Keene, Martin Lunin, Irwin Mandel, David F. Mitchell, S. Miles Standish, Harold Stanley and Merrill Wheatcroft. A special vote of thanks to Dennis Lynch for his careful critique of the chapter on Oral Aspects of Metabolic Diseases. Hours of consultation also were devoted to this project by many members of the staffs of Indiana University School of Dentistry and School of Medicine, including Drs. J. William Adams, Charles W. Gish, G. Thaddeus Gregory, Victor C. Hackney, J. Frank Hall, Harry J. Healey, Charles E. Hutton, Ralph E. McDonald, Chris H. Miller, Wilbur C. Moorman, Timothy J. O'Leary, Ralph W. Phillips, Ronald S. Ping, Robert J. Rohn, Lawrence M. Roth, Henry M. Swenson, George K. Stookey, Grant Van Huysen and Frank Vellios.

Our deep appreciation is due to a number of persons with whom, over a period of years, we have held lengthy discussions of the technical and philosophical aspects of oral pathology which have resulted in the authors' arrival at many of their conclusions and beliefs. This list must include Dr. S. Miles Standish, whose inestimable aid and calm wisdom can never be properly or sufficiently acknowledged; Drs. Donald A. Kerr and Robert J. Gorlin, particularly for their critical reading

and suggestions; Drs. William G. Sprague and Charles A. Waldron for their continued inspiration through constant discussions, agreement and disagreement; Drs. Charles E. Tomich and Lawrence I. Goldblatt for so willingly sharing the burdens; Dr. Frank Vellios, for his willing help and advice; and, finally, the many stimulating graduate students with whom it has been our privilege to be associated over the years.

The photographs have been prepared largely by Mr. Richard Scott, Mrs. Gloria Spray, Mrs. Alana Fears and Mr. Michael Halloran of the Illustration Department of Indiana University School of Dentistry. The drawings were made by Drs. Peter Kesling and Rolando DeCastro. Assistance for the preparation of illustrative material, an important part of any book, is gratefully acknowledged.

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The tissue laboratory of the Department of Oral Pathology was in the charge of Mrs. Patricia G. Clark, who had responsibility for the excellent histologic material used in most of the photomicrographs.

A special debt of gratitude is owed to Sylvia Levy for her part in this undertaking. For all editions of the text, she painstakingly read and reread not only rough and final copies of the manuscript, but also all galley and page proofs, correcting errors in punctuation, spelling, grammar and syntax with an unselfish devotion. The undertaking of this book would have been impossible also without the sacrifices made by the authors' wives in tolerating the long hours spent in writing. To them, special recognition is offered.

THE AUTHORS

# PREFACE

## to the First Edition

ORAL PATHOLOGY represents the confluence of the basic sciences and clinical dentistry. Since it has no methods of its own, knowledge in this field is acquired through the adaptation of methods and disciplines of those sciences basic to dental practice, such as gross and microscopic anatomy, chemistry, microbiology and physiology, and through information obtained by clinical histories and observation of patients. Through the science of oral pathology, an attempt is made to correlate human biology with the signs and symptoms of human disease. The oral pathologist attempts to understand oral disease so that it can be properly diagnosed and adequately treated.

In this text we have attempted to bring the reader to an understanding of the patient and his problems through applied basic science. We have tried to explain clinical signs and symptoms in the light of known histologic, chemical and physiologic alterations. Where possible, the prognosis of each disease is considered as a reflection of the underlying tissue changes and what we know can be done about them today.

In numerous sections of the text we have attempted to integrate information from many of the basic sciences for adequate diagnosis of oral disease. This approach is a departure from that of the usual textbook of oral pathology, representing an effort to place more emphasis on the physiologic and chemical aspects of oral disease.

The references at the end of each chapter are extensive enough to be of value to those interested in additional reading. Only those papers which constitute good review articles or exceptional discussions or which are of historical importance are included. Because the field of oral pathology is large, much of the bibliographic material has had to be curtailed or omitted. The highlights alone have been stressed. It is our hope that this book will prove to be a stimulus to study as well as a guide for undergraduate and graduate students and practitioners of both dentistry and medicine.

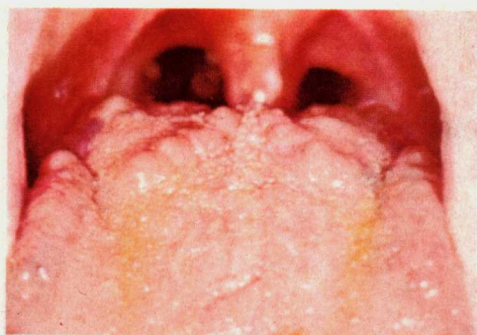
THE AUTHORS



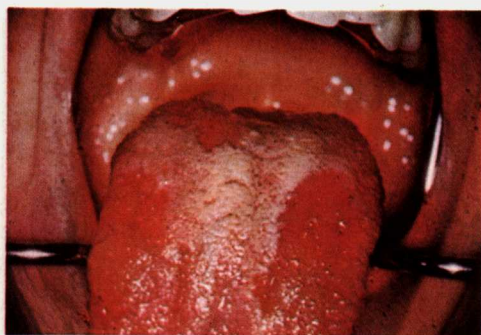
PLATE I



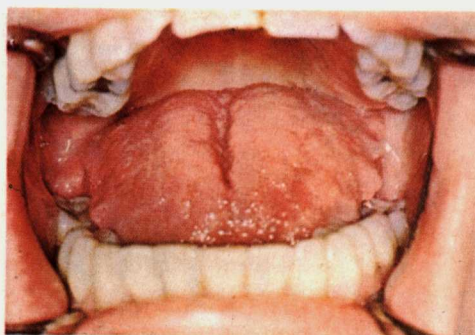
Fordyce's granules



Circumvallate papillae



Geographic tongue



Cleft and lobulated tongue



Median rhomboid glossitis



Hairy tongue



Lingual tonsil



Mottled enamel (dental fluorosis)



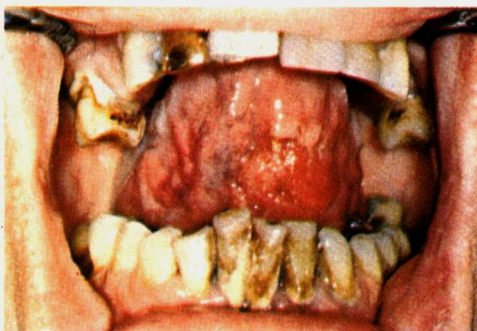
## PLATE II



Basal cell carcinoma



Epidermoid carcinoma of lip



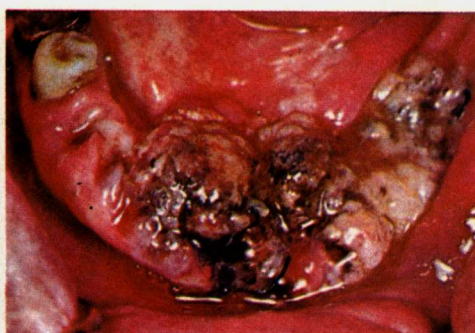
Epidermoid carcinoma of tongue (ventral)



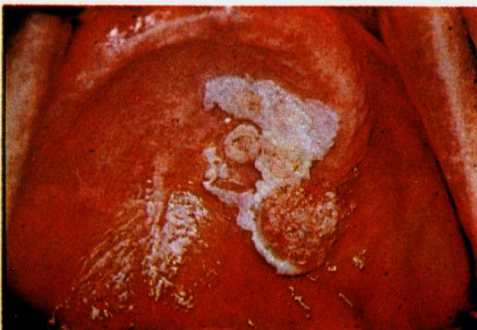
Epidermoid carcinoma of tongue (lateral)



Epidermoid carcinoma of gingiva



Epidermoid carcinoma of floor of mouth and alveolar ridge



Epidermoid carcinoma of palate and alveolar ridge



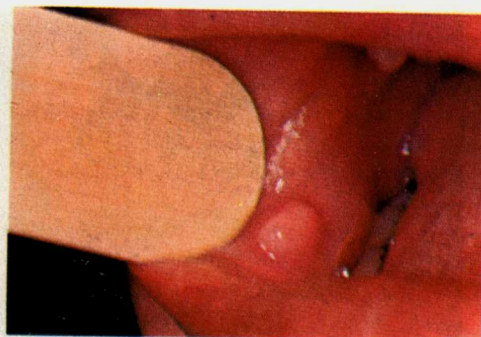
Metastatic carcinoma



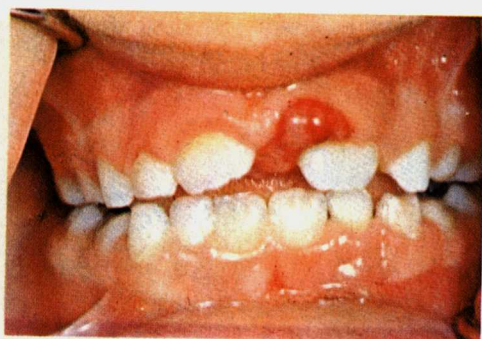
PLATE III



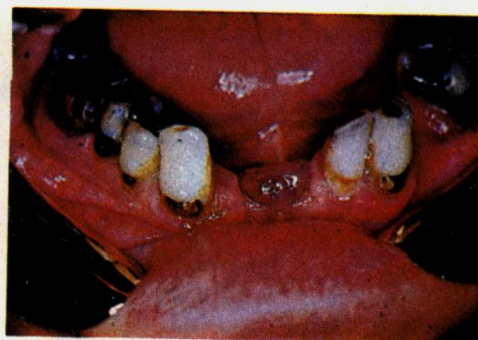
Papilloma



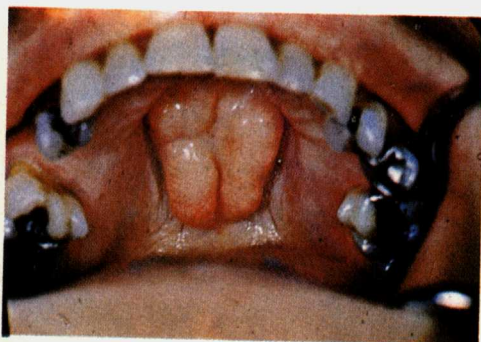
Fibroma



Peripheral giant cell granuloma



Peripheral giant cell granuloma



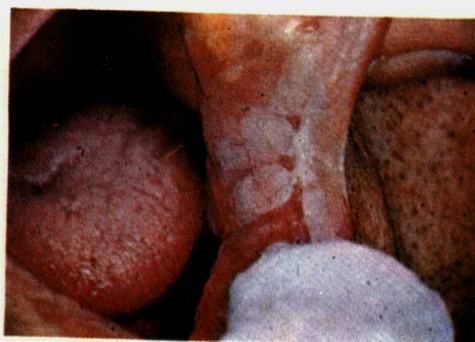
Torus palatinus



Traumatic neuroma



Leukoplakia (snuff patch)



Leukoplakia



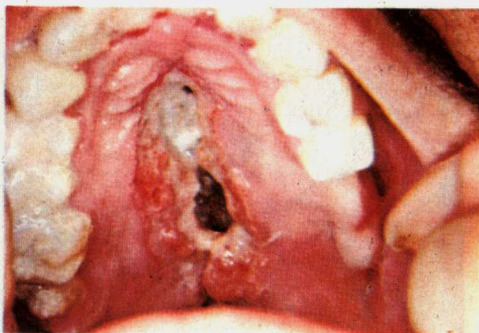
## PLATE IV



Pyogenic granuloma



Noma



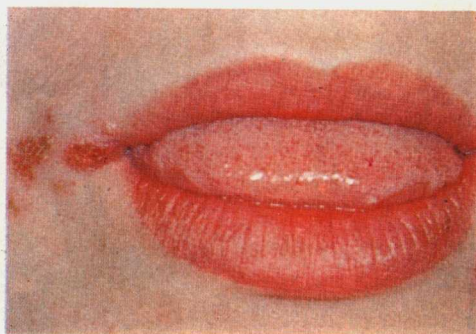
Midline lethal granuloma



Actinomycosis



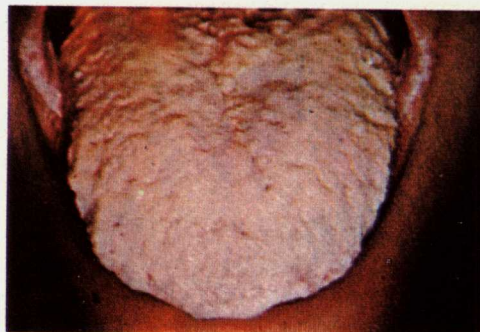
Primary herpetic gingivostomatitis



Recurrent herpes labialis



Recurrent aphthous stomatitis



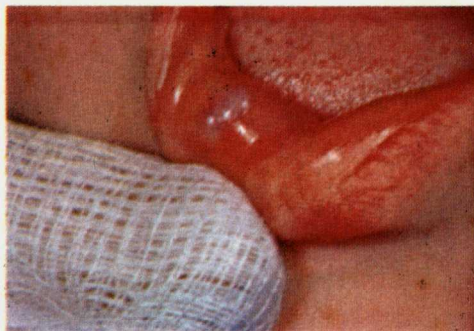
Candidiasis



PLATE V



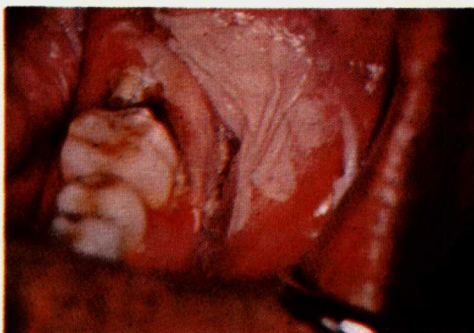
Inflammatory hyperplasia (redundant tissue)



Salivary gland retention phenomenon (mucocele)



Bismuth gingivitis



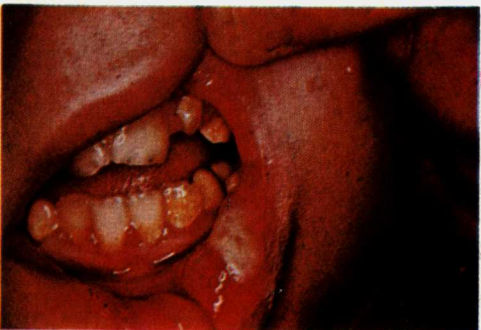
Aspirin burn



Papillary hyperplasia (papillomatosis)



Acrylic allergy



Traumatic ulcer (lip bite after mandibular injection)



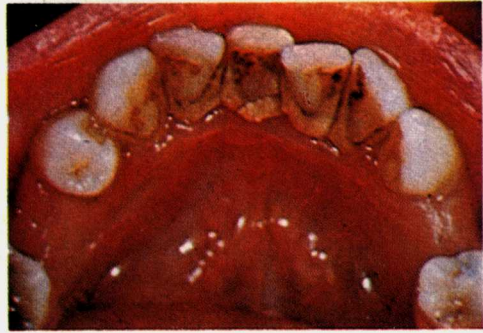
Radiation mucositis



## PLATE VI



Tobacco stain



Calculus



Lateral abscess



Acute necrotizing gingivitis



Inflammatory gingival hyperplasia



Advanced periodontitis



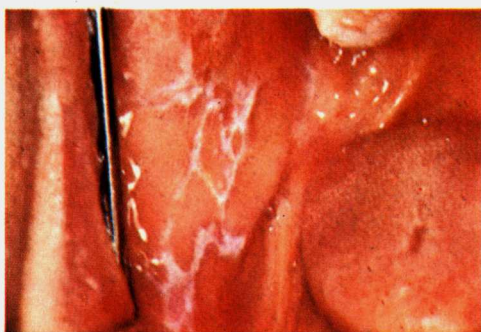
Chronic desquamative gingivitis



Gingival recession



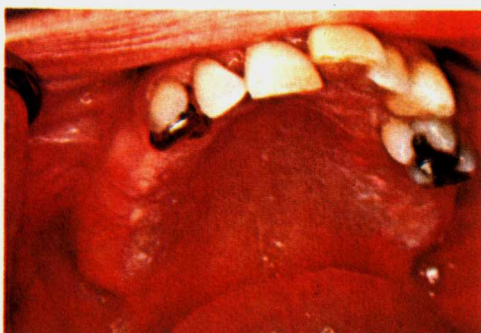
PLATE VII



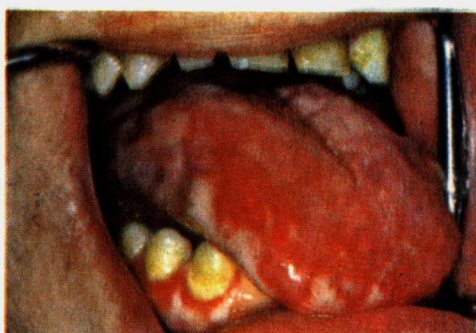
Lichen planus (buccal mucosa)



Lichen planus (gingiva)



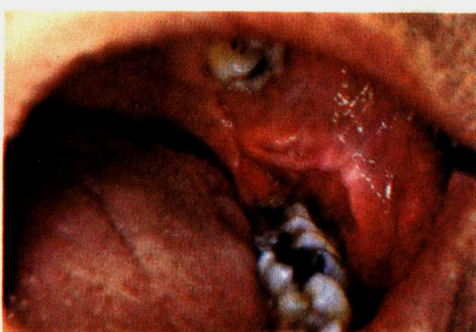
Lichen planus (palate)



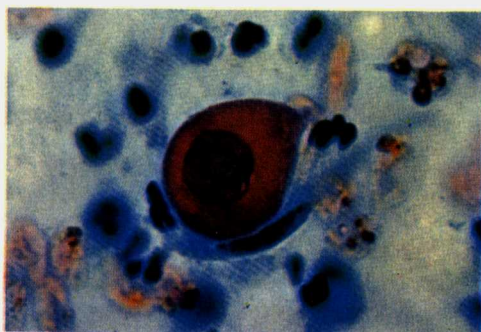
Stevens-Johnson syndrome



Pemphigus vulgaris



Pemphigus vulgaris



Pemphigus vulgaris, acantholytic cell (cytologic smear)



Pemphigoid

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