Periodontitis in Man and Other Animals

Periodontitis in Man
and Other Animals

A Comparative Review

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Drug Dosage The authors and the publisher have exerted every effort to ensure that drug selection and dosage set forth in this text are in accord with current recommendations and practice at the time of publication. However, in view of ongoing research, changes in government regulatiOns, and the constant flow of information relating to drug therapy and drug reactions, the reader is urged to check the package insert for each drug for any change in indications and dosage and for added warnings and precautions. This is particularly important when the recommended agent is a new and/or infrequently employed drug.

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This is not a traditional monograph, or textbook; it may, however, be the beginning of a new tradition. 'Periodontitis in Man and Other Animals' by Roy C. Page and Hubert E. Schroeder is a fully integrated text with a prospective as well as a retrospective point of view. It is not only a valuable guide for teachers, students and practitioners who want a comprehensive view of the diseases they treat, but should also serve as an indispensable resource for researchers. Perhaps even more important, the stimulating and challenging analysis of some of the current views of pathogenic mechanisms should act as a catalyst for new research.

The heart of this unusual book is the comparative pathology of periodontal diseases in a broad range of animals, from the least shrew to the baboon. It is not, however, an embellished laundry list, but a meticulous, critical review with an appreciation for both the accurate observation, which is timeless, and the need for periodic re-examination and re-assessment to reflect new information. Despite the thick underbrush of diversity in clinical and histological details among the many animal models, the reader is guided, with a growing sense of excitement, into the clear areas of communality and a unifying concept of periodontitis.

In the process of searching for common denominators Page and Schroeder introduce us to some very interesting forms of periodontitis in animals, such as 'cara inchada' (swollen face), a disease found in cattle in West Central Brazil, and the 'broken-mouth' periodontitis of sheep. This is not merely esoterica, because these observations are then related to periodontal diseases in rodents and non-human primates, to ligature-induced disease, to the nature of the disease in germ-free animals, to the incidence of periodontal diseases in non-domesticated vs. domesticated animals and to many other aspects of comparative pathology. No one contemplating animal
research in periodontal diseases can afford not to read this review and analysis. From start to finish this is a challenging book. The authors challenge the data on epidemiology of periodontitis because of the inadequacy and lack of uniformity of the criteria for measuring disease; they challenge, because of inconsistencies, the concept that gingivitis automatically becomes periodontitis.

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Most vigorously of all, they challenge the view that the overexuberant host immunological response destroys the supporting tissues. Their manifesto reads: 'Indeed, when data from all sources are considered, it appears likely that immune mechanisms are pre-eminently protective and play but a minor role in pathologic tissue destruction'. The challenges are not hurled, however, as philosophic or religious beliefs but are outgrowths of their analyses of the existing studies in the literature and of their own research activities, both individually and in collaboration. Their challenges are hypotheses to be further tested; they are not adversary, they are constructive and exciting and should stimulate controversy and encourage research.

Page and Schroeder, however, are not merely nay sayers; they are strongly partisan proponents of the view that the neutrophil is pre-eminent in the defense of the supporting tissues and that even modest defects in polymorphonuclear leukocyte function can profoundly affect the level of disease.

They marshall impressive evidence from animal and recent human studies to support this view. They are clearly neutrophiles.

In addition to the major section on comparative pathology, the book also includes an excellent and amazingly up-to-date review of the nature of periodontitis in humans. There is a fair appraisal of both the developing case for involvement of specific organisms in specific forms of periodontitis and of the various pathways of host response. Especially exciting is the concept of 'radius of effectiveness' to describe and quantitate the effect of the toxic plaque products on the supporting tissues, and to explain the structural features of the lesions. The superb descriptions of the tissue alterations, and the modus operandi, reflect the collaboration of an outstanding morphologist and a leading experimental pathologist.

The final portion of the book deals with the clinical implications of recent research. There are excellent descriptions of the new work on the cyclic nature of periodontitis, the recognition of various forms of disease, the role of specific organisms and the effect of antibiotics. It becomes quickly apparent that a modern practitioner cannot view the laboratory as a remote outpost from which one receives an occasional message. The messages are frequent, they are loud, and they are becoming clearer. New methods of
diagnosis, new treatment modalities and new approaches to prevention are in the offing; 'Periodontitis in Man and Other Animals' provides an invaluable orientation.

New York, December 1981 Irwin D. Mandel

This monograph is dedicated to the Science and Practice of Periodontology as a contribution to efforts to understand, control and prevent these debilitating diseases in human populations.