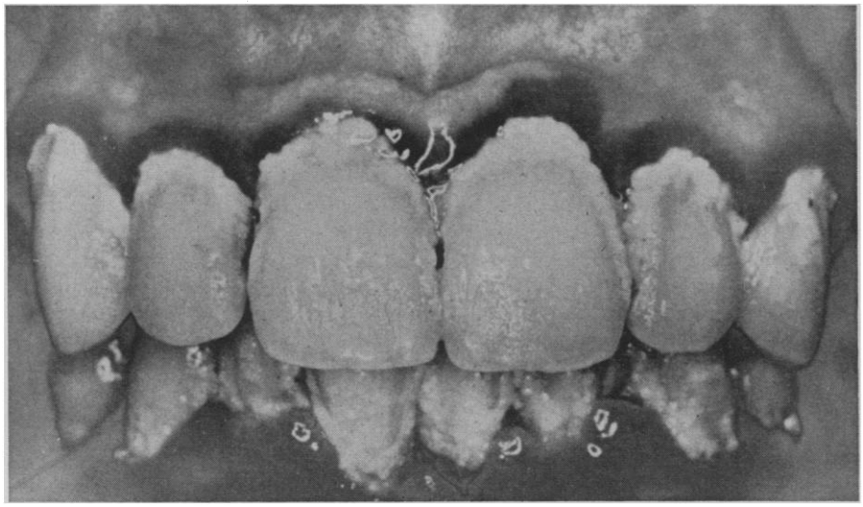
28–29 December

Comparative Immunology of the Oral Cavity



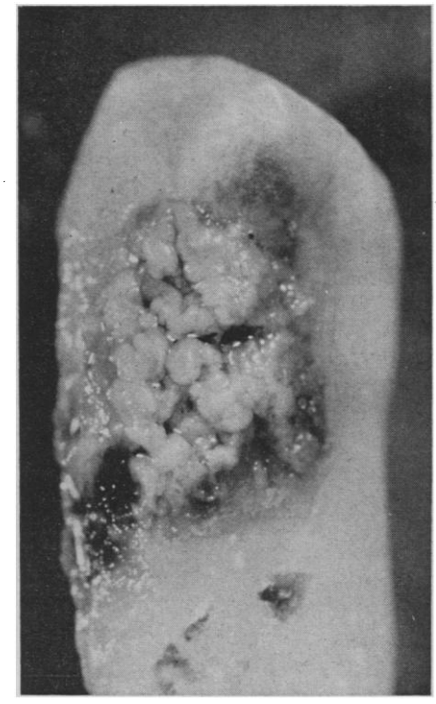


Fig. 1 (above). Front teeth (human) densely coated with bacterial mats. Gingivitis in the gum tissue. [National Institute of Dental Research]
Fig. 2 (right). Root caries. Plaque accumulation on human canine tooth. [National Institute of Dental Research]

This 2-day symposium aims to collate our knowledge of the parameters regulating the often unusual immunological phenomena operative in the oral cavity.

The tooth, an essentially unreactive tissue, is constantly colonized by acidogenic bacteria, which under suitable conditions initiate demineralization and cavitation (dental caries). The only close analogues are fungus infections of the hair and nails. What regulates this relationship—salivary antibodies, phagocytes, biochemical factors of the oral environment, factors inherent in the structure of the outer dental enamel of different teeth or of different microscopic sites on individual teeth? Similarly, the oral mucosa is constantly exposed to a high concentration of potentially very virulent bacteria, yet these rarely establish infection within the local tissues. Contrariwise, the ubiquitous common type of destructive, inflammatory periodontal disease probably is mediated in part by allergic reactions to locally produced bacterial antigens. As phenomena of local immunity, the data will be analyzed in the context of (i) immunity in other organ systems involving secretory immunoglobulins, such as respiratory tract, intestinal tract, genitourinary tract, and mammary gland, and (ii) general immunopathology. Accordingly, three introductory papers will concern, respectively, the structure and biosynthesis of secretory immunoglobulin A; antiviral local immunity; and antibacterial activities of secretory IgA.

The second half-day includes two discussions of genetic, biomedical, and microbiological parameters associated with innate resistance to dental caries; a third paper will consider the peculiar problems besetting attempted artificial immunization against dental caries.

The second day deals with immunity and immunopathology of oral soft tissues, including roles of several components of complement: humoral and bacterial mediators of inflammation; the paradoxical mediation of both defense and injury by antibody and complement in herpessimplex virus infection; changes in the human oral microbiota associated with administration of immunosuppressive drugs; mediation of oral immunopathologic processes by lymphoid cells; and peculiar features of tooth transplant rejection. The symposium will close with an overview of bacterial immunity of the oral cavity and comparable organ systems.

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27 December

The Information-Conscious Society

Eugene Garfield, president of the Institute for Scientific Information in Philadelphia, will chair a symposium on the Information-Conscious Society. The theme of the symposium is the need of the public, and of sectors of the public, for information that can be used in the clarification and, hopefully, solution of social and economic problems.

Though much information useful to the purpose undoubtedly exists, society as a whole, despite striking advances in communications technology, has done