
Editorial

Oral health and function in the elderly

The oral cavity serves three essential functions in human physiology: the initiation of alimentation, the production of speech, and host protection from pathogenic organisms and noxious stimuli. Specialized oral tissues have evolved to enable humans to perform these functions. Thus, the teeth, periodontium, oral mucosa, saliva, and masticatory muscles prepare the food bolus for deglutition. The tongue and oropharyngeal muscles play a central role in communication. Oral mucosa, saliva, and the sensory systems associated with the perioral region (smell, taste, proprioception, temperature, pressure) provide important protective mechanisms. In addition, the oral cavity contributes much to the quality of an individual's life, from food enjoyment to socialization. The functional status of the oral cavity is often a reflection of systemic health. Oral tissues may give signs of broader medical concerns, and systemic disease often affects oral physiology.¹

For many years it was believed that old age was accompanied by generalized oral dysfunction: lost teeth and poorly-fitting dentures, periodontal diseases and dental caries, a dry mouth and friable mucosa, diminished taste and altered masticatory efficiency. However, research from the past decade has begun to change the image of the aging oral cavity.² Indeed, research data indicate that in healthy elders, and even in those with one well controlled systemic disease, the structure, function, and health of the oral cavity does not generally differ from young adult counterparts. For example, salivary gland function³ and the

clinical appearance of the oral mucosa⁴ are age-independent in healthy subjects. Taste is also relatively unimpaired in elders⁵ and periodontal pocketing (a marker for periodontal diseases) does not appear to increase with age.⁶ Furthermore, the prevalence of edentulous individuals in the USA has diminished dramatically in the past three decades, and the utilization of dental services has significantly increased among the elderly.⁷

Nonetheless, significant problems do arise in the oral tissues of older persons in the presence of uncontrolled systemic disease or severe medical conditions and their treatments.⁸ For example, many medications are known to diminish salivary gland fluids,⁹ which can result in pleiotropic oral effects including mucosal infections, recurrent dental caries, impaired swallowing, tasting, and speaking. Numerous neurological and physical impairments may also restrict an elder's ability to perform adequate oral hygiene, eventually resulting in oral disease.¹⁰

It is important for anyone interested in clinical geriatrics to be attentive to oral disease in an elder, and to determine its aetiology. A reasonably functional oral cavity should be a legitimate health expectation of most older adults. Today, it is unacceptable to assume that oral dysfunction in an older person is the simple result of the passage of time (aging), and, by inference, untreatable. Rather, it is probably the result of disease, its therapy, inadequate oral hygiene or insufficient dental care. These circumstances should be clinically

addressed with supplementary preventative care to ensure adequate oral health and function across the human lifespan. By avoiding stereotyped expectations from older patients, we can pay legitimate attention to their oral problems, thus adding to their quality of life and their general well-being.

Jonathan A Ship, University of Michigan School of Dentistry and Bruce J Baum, National Institute of Dental Research, National Institutes of Health, Bethesda, USA.

References

- 1 Jones JH, Mason DK. *Oral manifestations of systemic disease*, second edition. London: Baillière Tindall, 1990.
- 2 Baum BJ, Ship JA. The oral cavity. In: Hazzard WR, Andres R, Bierman EL, Blass JP eds. *Principles of geriatric medicine and gerontology*, second edition. New York: McGraw Hill, 1990: 413–21.
- 3 Ship JA, Baum BJ. Is reduced salivary flow normal in old people? *Lancet* 1990; **336**: 1507.
- 4 Wolff A, Ship JA, Tylanda CA, Fox PC, Baum BJ. Oral mucosal appearance is unchanged in healthy, different-aged persons. *Oral Surg Oral Med Oral Pathol* 1991; **71**: 569–72.
- 5 Weiffenbach JM, Cowart BJ, Baum BJ. Taste intensity perception in aging. *J Gerontol* 1986; **41**: 460–68.
- 6 Oliver RC, Brown LJ, Loe H. Variations in the prevalence and extent of periodontitis. *J Am Dent Assoc* 1991; **122**: 43–48.
- 7 Ship JA, Ship II. Trends in oral health in the aging population. *Dent Clin North Am* 1989; **33**: 33–42.
- 8 Ship JA. Oral sequelae of common geriatric diseases, disorders, and impairments. *Clin Geriatr Med* 1992; **8**: 483–97.
- 9 Sreebny LM, Schwartz SS. A reference guide to drugs and dry mouth. *Gerodontology* 1986; **5**: 75–99.
- 10 Ship JA. Oral health of patients with Alzheimer's disease. *J Am Dent Assoc* 1992; **123**: 53–58.