Oral Health and Diabetes: Interprofessional Coordination of Patient-Centered Care

Preface

As clinicians who diagnose and treat oral conditions associated with systemic diseases and prescribe the medications used to treat these diseases, we are well aware of the oral changes that are observed in patients with diabetes. We experience firsthand the difficulty communicating to other health care providers about the impact of related oral changes on the management of diabetes. With more than 60 years of combined clinical diagnosis and treatment experience between us, we welcomed the challenge of being guest editors for this Diabetes Spectrum From Research to Practice section on “Oral Health and Diabetes: Interprofessional Coordination of Patient-Centered Care.”

Recognition of the end-organ impact of diabetes on cardiovascular and renal health, peripheral circulation, and eye pathology has led to coordination of care for diabetic patients between primary care physicians, cardiologists, podiatrists, and ophthalmologists. Substantial evidence now supports the importance of integrating oral health care, particularly periodontal care, into standard diabetes disease management.

This necessitates coordination of care between medical and dental care providers. However, oral health education with relation to diabetes has only recently been promoted in medical education and medical practices. Similarly, dental education now places a growing emphasis on a medical approach in diagnosing diabetes and assessing glycemic control to coordinate care with medical providers.

Coordination of care between medical and dental providers remains a challenge because of a lack of standardized protocols for health information exchange and a lack of integration of health records despite advances in electronic information technology. This is partly because the electronic health records (EHRs) of each discipline contain different types of information that communicate poorly, if at all, with each other. An even more fundamental challenge for health information exchange between disciplines, whether using EHRs or paper records, is the need for agreement on the content, terminology, and format of information to be exchanged that is mutually understood by medical and dental providers who share in the care of the same diabetic patients.

The articles in this research section address the oral manifestations of diabetes and offer a framework for communication between medical and dental providers that can be used to coordinate the care of patients with diabetes.

The first article, by G. Rutger Persson, DDS, PhD (Odont Dr), (p. 195) defines the clinical features and pathophysiology of periodontal disease, the most common oral manifestation and complication of diabetes. He discusses the impact of periodontal inflammation on glycemic control, making the case for concurrent medical and periodontal care for diabetic patients.

The next article (p. 199), which we co-authored, describes non-periodontal oral changes commonly seen in patients with diabetes that result from the underlying pathophysiology of diabetes and medications used to treat diabetes and its associated medical complications. This article includes clinical photos to assist non-oral health care providers in recognizing these common conditions. We also provide a checklist of lesions, signs, and symptoms for these conditions...
that can assist in monitoring and communication between providers in the care of patients with known diabetes and help to identify patients at risk for undiagnosed diabetes.

Our final article (p. 205), co-authored by Jeffrey Hummel, MD, MPH, and guest editor Gandara, introduces a conceptual framework for using health information technology to support care coordination. High-value datasets are defined for medical and dental providers exchanging information for diabetes care. This article also introduces examples of standardized workflows for care coordination between medicine and dentistry.

The shared goal of these articles is to provide a foundation for building diagnostic and disease-management protocols that can be customized to meet the needs of medical and dental providers involved in the care of patients with diabetes. Care-coordination methods should be monitored for success of clinical outcomes and cost-effectiveness.

Even if health information exchange can be optimized, challenges remain. The editorial in this issue of Diabetes Spectrum by David S. Gesko, DDS, William A. Rush, PhD, and Emily Utoff Durand, RDH, RF, (p. 187) points out that lack of dental insurance for periodontal treatment and preventive dental services, including regular examinations, professional dental cleaning, and oral health education, serves as a barrier for patients to receive recommended care. Expanded coverage for medical and dental insurance is needed to support the coordination of care between medical and dental providers.

It is also important to remember that behavioral issues are as important in the management of oral health of diabetic patients as they are in other aspects of diabetes management. Patients with diabetes must maintain good oral hygiene, adhere to a healthy diet, manage stress, and not smoke to control oral disease.

Basic research in immunology and the pathophysiology of diabetes will continue to improve our understanding of the effects of diabetes on oral health and, conversely, how and to what degree oral health affects glycemic control. Ultimately, this knowledge will translate into improved diagnostic and therapeutic protocols. Combined with advances in health information exchange, there is great promise for coordination of care between medical and dental providers that is efficient and effective and provides the best outcomes for patients with diabetes.
Guest Editors

Beatrice K. Gandara, DDS, MSD, is a clinical associate professor in the Department of Oral Medicine of the School of Dentistry at the University of Washington (UW) in Seattle. She is a graduate of the School of Dentistry at the University of Southern California in Los Angeles. She completed a 1-year hospital dentistry residency at the Veteran's Administration Hospital in La Jolla, Calif., and worked at the Edward Royal Comprehensive Health Center in Los Angeles for 2 years after her residency. She then earned a master's degree in oral medicine from UW.

During her studies, Dr. Gandara completed a National Institute of Aging fellowship in geriatric dentistry and a National Research Service Award fellowship in salivary gland research. She was also a fellow in the UW Dental Education and Care of the Disabled program.

In 1987, she joined the faculty of the UW Department of Oral Medicine. She is a diplomate in the American Board of Oral Medicine and completed a salivary research fellowship at the Fred Hutchinson Cancer Research Center in Seattle. Her areas of research include saliva as a diagnostic fluid and risk factors for tooth wear. She is also involved in interprofessional education and lectures frequently to medical and physician's assistant students about systemic disease and oral health and disparities in oral health care access. She is co-director of the UW Summer Medical and Dental Education program funded by the Robert Wood Johnson Foundation.

Dr. Gandara dedicates time to teaching undergraduate and graduate dental and medical students and especially enjoys working with students in community outreach. She is director of educational partnerships and diversity at the UW School of Dentistry. Her patient care responsibilities include oral medicine, urgent care, and geriatric dentistry. In her spare time, she enjoys hiking, videography, and photography.

Thomas H. Morton, Jr., DDS, MSD is a professor emeritus who recently retired as acting chairman of the Department of Oral Biology of the School of Dentistry at the University of Washington (UW) in Seattle. He earned a bachelor’s degree from the University of Redlands in Redlands, Calif.; a doctorate in dental surgery from Creighton University in Omaha, Nebr.; and a master’s degree in dentistry in oral pathology from UW. He also completed a 1-year residency in surgical and anatomic pathology at the UW Affiliated Hospitals.

Dr. Morton is a diplomate of the American Board of Oral and Maxillofacial Pathology and participated in the UW oral pathology biopsy service, which handled more than 6,000 oral and craniofacial specimens per year. He continues to participate in research on the oral manifestations of chronic graft vs. host disease (cGVHD) through the Fred Hutchinson Cancer Research Center, a part of the Seattle Cancer Care Alliance in Washington. He served as the oral pathologist for the National Institutes of Health consensus development project working group on criteria for clinical trials in cGVHD histopathology. He is currently involved with research on salivary biomarkers in cGVHD and other systemic diseases.

Dr. Morton is active in several professional organizations. He has served on the Governor's Advisory Council on HIV-AIDS for the state of Washington. He has received several teaching awards and the Washington State Dental Association Faculty Award. He has been involved with several research projects in interprofessional education, including “Interprofessional Education to Promote Patient Safety” and “Interprofessional Bridges Program for Classroom and Clinical Linkages,” and has given an invited presentation on “Dentistry's Role in Interprofessional Education for Present and Future Patient-Centered Health Care Providers.” He has also served as an assistant and associate dean for the UW School of Dentistry. In retirement, he plans to continue his current research, writing, diagnostic pathology, and academic administration consulting.

Diabetes Spectrum associate editor JoAnn Sperl-Hillen, MD, was in charge of coordinating this From Research to Practice section.

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