EDITORIAL

Oral and maxillofacial disease: A model for interprofessional education and care

The patient with oral or maxillofacial disease may present to any of a variety of health care providers, including the general dentist, primary care physician, dermatologist, oral and maxillofacial surgeon, otolaryngologist/head and neck surgeon, or oral medicine specialist. Among these specialists, cumulative exposure to, and familiarity with, the management of oral and maxillofacial diseases varies. General dentists may be most comfortable with the management of dental caries and periodontal disease, including its advanced sequelae; primary care physicians with clinical findings in the context of systemic processes, such as infection; and dermatologists in the management of mucocutaneous disorders. The skills of the oral and maxillofacial surgeon and the otolaryngologist in performing tumor and bone biopsies are central to training in these specialties, whereas oral medicine specialists master the medical management of facial pain disorders, salivary gland hypofunction, and chronic oral mucosal conditions. Indeed, there is a lack of formal studies assessing patient outcomes in this multidisciplinary setting, and there are many instances of unnecessary patient referrals in search of the most appropriate treating clinician.[1]

Apart from dental caries and periodontal disease, oral and maxillofacial diseases consist of nonodontogenic diseases native to the oral cavity; diseases native to organ systems of which the oral cavity may be considered an anatomic or physiologic part (such as skin, upper aerodigestive tract, and gastrointestinal tract); neuropathies; and gnathic disease, which is unique among skeletal diseases because of the supportive role of the jaws in facial growth and development. Patients expect to be appropriately managed by the provider to whom they present, even though the chief complaints often cross areas of expertise, such as pulsatile pain that may occur in the midface as a manifestation of a neurovascular headache, frictional hyperkeratoses in the oral mucosa that may resemble leukoplakia, or dermatologic disease affecting only the gingival and genital mucosae. Frequently, a specific diagnosis is elusive or could have several possible explanations, of which only some may be considered because of the specific training and experience level of the attending clinician.[2]

Unique challenges in the management of the patient with oral or maxillofacial disease relate to the existence of disparate educational institutions with differing educational objectives, leading to different models of health care delivery. In dental curricula, for example, there is some exposure to oral and maxillofacial disease and clinical medicine, but competence is hindered by practice models and financial models of reimbursement emphasizing limited disease management (e.g., caries control and periodontal control). In medical curricula, exposure to oral and perioral diseases is variable, with no clear outcomes of education. Potential solutions, such as focused universal integration of the first 2 years of medical and dental undergraduate curricula or elimination of the dental doctoral degree and its redesignation as a medical specialty, are, in equal parts, appealing and idealistic. Furthermore, a successful interprofessional education model must include a vision for interprofessional practice, where the trainees will go into the field and practice, although this is a daunting task. Interprofessional education is tasked with recognizing the interdisciplinary opportunities that are present in clinical practice and developing long-term, durable methods for professional development that will lead to concrete improvements in patient care.

Current models of health care delivery reveal not only opportunities for improvement but also insights into potential solutions. In the field of pathology, the development of subspecialty expertise over the past several decades has made significant contributions to improvements in clinical practice and advances in research.[3] Dermatopathologists, head and neck pathologists, and oral and maxillofacial pathologists are just some of the subspecialists who provide expert diagnostic services for their respective clinical counterparts—dermatologists, head and neck surgeons/otolaryngologists, and oral and maxillofacial surgeons. The model of subspecialization in pathology has served to strengthen clinician-pathologist relationships and to facilitate patient management. Also, when a need for confirmation of a diagnosis arises—for example, when a dermatologist performs a biopsy of an oral mucosal lesion or an oral and maxillofacial surgeon removes a growth from the facial skin—consultation with the appropriate subspecialty pathologist helps realize the value of subspecialty support. The likely reason for success in patient care in the subspecialty era in the field of pathology is the shared core training in anatomic pathology required of all resident pathologists. This suggests that it is the commitment to a uniform set

of educational objectives by all pathologists-in-training and their completion of these requirements before pursuing subspecialty training that lays the foundation for successful patient care. This model is already more prevalent in graduate medical education than is realized, as evidenced by the list of subspecialty opportunities after completion of categorical residency training in internal medicine.[4] The question, thus, is "How do we introduce interprofessional education earlier, into undergraduate curricula, and synchronize the educational objectives of various teaching institutions?"

As interprofessional models become implemented and successfully prepare future generations of health care providers and researchers, improved patient outcomes will result from significant knowledge, discovery and dissemination, increased specialty recognition by other providers, and, ultimately, expert patient management by the most qualified specialist(s). Implementation of the Interprofessional Education Collaborative competencies demands improved communication and teamwork across health care disciplines (broadly defined), targeting improved patient outcomes and safety (in both reduction of medical errors and consideration for safe delivery of medications and surgical interventions).[4] Increasingly, medical schools are designing their curricula to include interdisciplinary education, and several new medical schools, including the Geisinger Commonwealth School of Medicine, participate in providing case-based learning to regional nursing, dental, pharmacy, and physical and occupational therapy students.

Ultimately, the successful implementation of interprofessional curricula and patient care requires thoughtful selection of educational objectives, followed by focused integration of undergraduate curricula, however challenging it may be to initiate that transition. Current models of health care delivery and education have not only demonstrated the challenges in the implementation of interprofessional models as well as the need for improvement, but they have also offered insights into solutions that can be identified and applied universally. In this context, the interdisciplinary management of patients with oral and maxillofacial disease is of particular interest because of the unique opportunity it affords to integrate the historically separated medical and dental specialties. The end-user, that is, the patient, ultimately will benefit from coordinated, structured care resulting from foundational, team-based education of all subspecialists related to the area of oral and maxillofacial disease.

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REFERENCES

1. Pinto A, Khalaf M, Miller CS. The practice of oral medicine in the United States in the twenty-first century: an update. *Oral Surg Oral Med Oral Pathol Oral Radiol*. 2015;119:408-415.
2. Ni XG, Wang GQ, Hu FY, et al. Clinical utility and effectiveness of a training programme in the application of a new classification of narrow-band imaging for vocal cord leukoplakia: a multicentre study. *Clin Otolaryngol*. 2019;44:729-735.
3. Black-Schaffer WS, Young RH, Harris NL. Subspecialization of surgical pathology at the Massachusetts General Hospital. *Am J Clin Pathol*. 1996;106:S33-S42.
4. Interprofessional Education Collaborative (IPEC). Available at: https://www.ipecollaborative.org. Accessed September 3, 2019.

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