Why Are the Diagnosis and Management of Orofacial Pain So Challenging?

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Pain is the primary reason patients visit a physician or dentist, and the diagnosis and management of pain in the face, mouth and jaws have been integral components of dental practice since dentistry became a widely recognized profession in the 19th century. Epidemiologic studies reveal that a large proportion of the population in many countries currently suffers from temporomandibular disorders (TMD), toothaches, headaches and other conditions associated with orofacial pain.[1,2] Indeed, some of the most common pain conditions in the body occur in the orofacial region and many of these are chronic (i.e., lasting more than 3 months). These chronic conditions range from such common problems as TMD and burning mouth to less-frequent disorders, such as trigeminal neuralgia and so-called atypical odontalgia. Most chronic pains represent a diagnostic or management challenge to dentists for several reasons, including the inadequate education most dentists receive regarding pain.

Unclear Cause of Most Chronic Pains

First, the cause and mechanisms underlying most of these chronic pain conditions are unclear, although risk and precipitating factors have been identified for several of them.[2] There is increasing evidence that pain is often undertreated or not treated appropriately, and that unless it is managed effectively in the early stages, neuroplastic changes can result in pain-related areas in the central nervous system (CNS) and produce a central hyperexcitability leading to the development and maintenance of a chronic pain state.[3–7]

Thus, in a sense, chronic pain can be considered a neurologic disorder or dysfunction of the nervous system in its own right, just as other disorders reflecting changes in the CNS are considered neurologic disorders (e.g., Parkinson's disease and epilepsy). Such alterations in the CNS, especially in the pathways and processes signalling pain, contribute to the difficulty in managing chronic pain effectively.

Complexity of Pain

Another factor complicating diagnosis and management is the very complexity and multidimensionality of pain, with its basis in biological processes but its impact on the emotional, psychological and social well-being of the patient. The orofacial region has biological, emotional and psychological importance in eating, drinking, speech and the expression of our feelings, and facial appearance is also very important for most humans. Thus, when pain or related dysfunction occurs in the face, mouth or jaws, especially when it becomes persistent or chronic, it can be associated with emotional, psychological and social disturbances that compromise the patient's well-being and quality of life.

The biopsychosocial underpinning of chronic pain, specifically in the case of TMD, was recently pointed out by Drs. Klasser and Greene.[8] Thus, the management of a patient with chronic orofacial pain requires that the clinician appreciate this biopsychosocial basis and have a broad knowledge base, but unfortunately, this is frequently not the case.

Inadequate Education about Pain

This leads to the third, and perhaps primary, reason underlying the difficulty that most dentists have in dealing with a chronic pain condition affecting the face, mouth or jaws: inadequate education about pain. In most dental schools, including those in Canada and the United States, this topic occupies only a minor component of the curriculum; no structured courses or clinical rotations specifically address orofacial pain.[9–11] Little wonder then that there is such a lack of understanding, inappropriate management and controversy on how to diagnose and manage many chronic orofacial pain conditions.[8,11–13]

I hasten to add that the limited educational focus applies not only to most dental schools but also to other health professional programs. The Canadian Pain Society, for which I currently serve as president, recently commissioned a research survey of medical, dental, nursing, pharmacy, physical therapy and occupational therapy programs in Canada; veterinary programs were also surveyed. Except for veterinary medicine, over half these programs could not identify any formal pain content in their program; the mean number of hours spent on pain education in dental and medical schools was lowest among these programs, at 15–16 hours in the whole 4-year curriculum. In comparison, veterinary medicine programs averaged about 90 hours. In general, it seems, our "furry friends" are better served by veterinary medicine graduates more knowledgeable about pain and its management, than are human patients by other health care professionals!

A Role for Dental Schools and Accrediting Bodies

Unless there is increased educational focus on pain mechanisms, diagnosis and management, including emphasis on the need for interdisciplinary/interprofessional management of many chronic pain conditions, many patients will continue to be poorly served. Moreover, the situation will become even more problematic in the coming years as changing demographics result in higher proportions of the population becoming middle-aged and elderly, the age cohorts for which most chronic pain conditions are most prevalent.

For these reasons, it is both essential and logical that the topic of pain should represent a significant part of the educational program for dental students (as well as students in the other health professional programs). Because chronic pain, in particular, is so complex and multidimensional, interdisciplinary/interprofessional aspects of management should also be emphasized. Dental school graduates must appreciate that many patients with chronic orofacial pain may be best served when the expertise of more than one health care professional is brought to bear on their problem.

Educational guidelines and programs that emphasize such educational approaches already exist, and they can be used in the development of a pain focus in dental school curricula in Canada.[11,14,15] As the past dean of a Canadian dental school, I know the pressures that deans are under to adjust their curriculum to meet current needs and educational objectives in the face of limited resources and the need to cover a broad range of topics to ensure that the dental graduate has the knowledge base and skills to serve the oral health care needs of Canadians from the first day after graduation. But as noted above, there is evidence that many dental practitioners have very limited education in pain, a topic so fundamental to the practice of dentistry.

Therefore, I urge the current academic leaders of dental schools to ensure that adequate and appropriate coverage is given to the topic of pain in their DDS/DMD curriculum. In addition, such coverage should be ensured in those dental specialty programs whose graduates are called on to manage orofacial pain patients. More continuing dental education courses are also needed to enhance the knowledge of general practitioners about orofacial pain.

It should also be noted that the DDS/DMD curriculum in Canadian dental schools accredited by the Commission on Dental Accreditation of Canada (CDAC) must meet the competency requirements laid down by the Association of Canadian Faculties of Dentistry (ACFD). However, at the moment, *only 1* of the ACFD's 47 competency requirements for a graduating dental practitioner directly relates to pain, and it is quite vague and general (competency 35: "manage patients with orofacial pain and/or dysfunction"). One other competency (28) relates to the need to achieve local anesthesia for dental procedures.

Given the above considerations, the ACFD must change its competency requirements and CDAC its curriculum requirements regarding pain and its diagnosis and management. These changes will ensure CDAC is meeting its stated mission to improve the educational programs that prepare dental health providers to serve the Canadian public.

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