The Essential Role of the Otolaryngologist in the Diagnosis and Management of Temporomandibular Joint and Chronic Oral, Head, and Facial Pain Disorders

Howard A. Israel, DDS[a,b,*], Laura J. Davila, DDS[a]

KEYWORDS

- Temporomandibular joint • Chronic oral, facial and head pain • Otalgia
- TMJ arthroscopy • TMJ exercise • Passive motion jaw rehabilitation
- Temporomandibular disorders

KEY POINTS

- Chronic oral, head, and facial pain (COHFP) disorders are frequently misdiagnosed, therefore a constant reevaluation of the diagnosis and response to treatment is required.
- Otologic symptoms are often caused by temporomandibular disorders (TMDs), and a careful history and clinical examination are the most important factors in making an accurate diagnosis and appropriate referral.
- Joint overload and lack of motion lead to pathologic changes resulting in inflammatory and degenerative temporomandibular joint disease.
- Principles for treating inflammatory and degenerative temporomandibular joint disorders are to reduce load, increase mobility with passive motion, reduce inflammation and muscle spasm, and manage pain.
- For patients with severe temporomandibular joint disorders that fail to improve with appropriate treatment, the least invasive procedure to treat the pathologic condition and improve function is indicated.

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[a] Division of Dentistry Oral & Maxillofacial Surgery, Weill-Cornell Medical College, New York Presbyterian Hospital, Cornell University, 525 East 68th Street, New York, NY 10065, USA; [b] Columbia University College of Dental Medicine, 630 West 168th Street, New York, NY 10032, USA

* Corresponding author. 12 Bond Street, Great Neck, NY 11021.

E-mail address: drhowardisrael@yahoo.com

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INTRODUCTION

In 1934, Costen[1] published a paper in the *Annals of Otology, Rhinology and Laryngology* on "A Syndrome of Ear and Sinus Symptoms Dependent on Disturbed Function of the Temporomandibular Joint." Costen observed patients with ear, jaw, and sinus pain and theorized that an altered occlusion resulted in temporomandibular joint disease as the major etiologic factor. Furthermore, he recommended correction of the occlusion to relieve pressure on the temporomandibular joint and surrounding structures, ultimately leading to resolution of the symptoms. Thus, the importance of the specialty of otolaryngology in the diagnosis and treatment of oral, head, and face pain was reinforced 80 years ago and continues to this day. Although Costen's proposal that an altered occlusion was the main cause of head and facial pain has been refuted by evidence-based research, to his credit, he did understand that the site and source of complex head and facial pain are often not the same. Today, 8 decades after the introduction of Costen syndrome, there are many clinicians who still treat patients according to the observations of Dr Costen in 1934.

The diagnosis and management of COHFP has been a subject of great controversy over the years and continues to this day. This situation is unfortunate, because there have been great advances in our understanding of these conditions based on solid research over the past 25 years.

Common clinical scenarios that the otolaryngologist is presented with include the following:

1. Patients with severe persistent ear pain with negative otologic findings who have inflammatory temporomandibular joint disease.
2. Patients with COHFP and masticatory dysfunction who are ultimately diagnosed with neoplasia or other serious disorders (eg, trigeminal neuralgia, temporal arteritis).
3. Patients with oropharyngeal cancers treated with surgery and radiation leading to trismus because of radiation fibrosis, making early detection of recurrent or second primary cancers extremely difficult if not impossible for the clinician.
4. Patients with persistent maxillary dental pain, undergoing multiple dental procedures that fail to reduce symptoms (eg. extractions, root canal therapy) who eventually are diagnosed with acute or chronic maxillary sinusitis.
5. Patients with tinnitus symptoms, resistant to treatment, and coexisting TMDs.

This article clarifies the current state of knowledge of COHFP conditions with the inclusion of temporomandibular joint disorders as just one component of the variety of conditions that can cause head and facial pain. Obtaining an accurate diagnosis in a timely manner is extremely important because COHFP symptoms can be caused by a variety of pathologic conditions that can be inflammatory, degenerative, neurologic, neoplastic, or systemic in origin. The essential role of the specialty of otolaryngology in the diagnosis and management of patients with these complex COHFP conditions is emphasized.

PITFALLS LEADING TO MISDIAGNOSIS OF COHFP

The reasons for the difficulty in properly diagnosing COHFP and TMDs are multifactorial. The following factors that can lead to misdiagnosis are important for the clinician to be aware:

1. Complex regional anatomy of the head and neck, often resulting in disparity between the site and the source of pain.