Preface: Contemporary Management of Temporomandibular Joint Disorders

Daniel E. Perez and Larry M. Wolford

Juvenile Idiopathic Arthritis Overview and Involvement of the Temporomandibular Joint: Prevalence, Systemic Therapy

Ruy Carrasco

The temporomandibular joint (TMJ) is one of the many joints involved in the inflammatory arthritides. As imaging of joints has developed, so have the data regarding extent and prevalence of TMJ involvement in these diseases. TMJ disease is especially prevalent in juvenile arthritis. The adult and pediatric inflammatory arthritides share common pathophysiology but are still markedly different. The preponderance of TMJ arthritis research exists in juvenile arthritis. This article discusses classification, treatment, and TMJ involvement in juvenile idiopathic arthritis.

Orthognathic Surgery in the Presence of Temporomandibular Dysfunction: What Happens Next?

Mohammed Nadershah and Pushkar Mehra

One of the most well-known yet perhaps controversial conditions affecting temporomandibular dysfunction (TMD) and the signs and symptoms of facial pain and clinical outcomes after orthognathic surgery procedures is temporomandibular joint internal derangement. This article provides an overview of the mutual relationship between orthognathic surgery and TMD, with especial consideration to internal derangement. The existing literature is reviewed and analyzed and the pertinent findings are summarized. The objective is to guide oral and maxillofacial surgeons in their clinical decision making when contemplating orthognathic surgery in patients with preexisting TMD.

Management of Temporomandibular Joint Ankylosis

Reza Movahed and Louis G. Mercuri

Temporomandibular joint (TMJ) ankylosis is a pathologic condition where the mandible is fused to the fossa by bony or fibrotic tissues. This interferes with mastication, speech, oral hygiene, and normal life activities, and can be potentially life threatening when struggling to acquire an airway in an emergency. Trauma is the most common cause of TMJ ankylosis, followed by infection. Diagnosis of TMJ ankylosis is usually made by clinical examination and imaging studies. The management goal in TMJ ankylosis is to increase the patient’s mandibular function, correct associated facial deformity, decrease pain, and prevent reankylosis.

Protocol for Concomitant Temporomandibular Joint Custom-fitted Total Joint Reconstruction and Orthognathic Surgery Using Computer-assisted Surgical Simulation

Reza Movahed and Larry M. Wolford

Combined orthognathic and total joint reconstruction cases can be predictably performed in 1 stage. Use of virtual surgical planning can eliminate a significant time requirement in preparation of concomitant orthognathic and temporomandibular joint (TMJ) prostheses cases. The concomitant TMJ and orthognathic surgery—computer-assisted surgical simulation technique increases the accuracy of combined
cases. In order to have flexibility in positioning of the total joint prosthesis, recontouring of the lateral aspect of the rami is advantageous.

Condylar Resorption of the Temporomandibular Joint: How Do We Treat It?
Larry M. Wolford and João Roberto Gonçalves

Condylar resorption (CR) is a common sequela of some temporomandibular joint (TMJ) abnormalities. CR can result in jaw deformities and dysfunction, malocclusion, pain, headaches, and airway obstruction. Most cases can be classified into 1 of 4 categories based on cause: (1) adolescent internal CR; (2) reactive (inflammatory) arthritis; (3) autoimmune and connective tissue diseases; and (4) other end-stage TMJ pathologic abnormality. MRI is helpful in differentiating the cause and defining treatment options. This article presents the nature and progression of the different TMJ CR pathologic abnormalities, clinical and imaging characteristics, and treatment options to produce predictable and stable outcomes.

The Current Role and the Future of Minimally Invasive Temporomandibular Joint Surgery
Raúl González-García

Several open surgeries have been proposed for the treatment of internal derangement (ID) of the temporomandibular joint (TMJ), although minimally invasive temporomandibular joint surgery (MITMJS) plays a major role in the treatment of ID and has been widely used for the treatment of ID of the TMJ. Arthrocentesis, arthroscopic lysis and lavage, and operative or advanced arthroscopy are the 3 most relevant techniques for MITMJS; clear indications for their application and a detailed description of each technique are presented. Also, clinical outcomes for each technique from the most relevant studies in the literature are reported.

Disc Repositioning: Does it Really Work?
João Roberto Gonçalves, Daniel Serra Cassano, Larry M. Wolford, and Luciano Rezende

Although limited, there is evidence to support the assumption that temporomandibular joint (TMJ) articular disc repositioning indeed works; to date, there is no evidence that TMJ articular disc repositioning does not work. Despite the controversy among professionals in private practice and academia, TMJ articular disc repositioning is a procedure based on (still limited) evidence; the opposition is based solely on clinical preference and influenced by the ability to perform it or not.

Complications of TMJ Surgery
David Hoffman and Leann Puig

Temporomandibular joint (TMJ) surgery can be divided into 3 types of surgery: Arthroscopy, arthroplasty, and total joint replacement. The complications associated with these procedures increase with complexity. They all include injury to adjacent structures, infections, and bleeding problems.

Temporomandibular Joint Dislocation
Aaron Liddell and Daniel E. Perez

Dislocation of the temporomandibular joint is one of many pathophysiologic joint conditions that the oral and maxillofacial surgeon is challenged with managing.
Managing a dislocated joint will inevitably be the challenge of most surgeons or physicians, whether in private or academic practice. Accordingly, this article addresses the pathophysiology associated with dislocation, in addition to treatment strategies aimed at managing acute, chronic, and recurrent dislocation.

**Surgical Management of Congenital Deformities with Temporomandibular Joint Malformation** 137

Larry M. Wolford and Daniel E. Perez

This article discusses hemifacial microsomia and Treacher Collins syndrome relative to the nature of these congenital deformities as well as the clinical, radiographic, and diagnostic characteristics. These patients often have severe facial deformities with hypoplasia or aplasia of the temporomandibular joints (TMJs) and mandible. The surgical treatment options are presented, including the advantages and disadvantages of autogenous tissues versus patient-fitted total joint prostheses to reconstruct the TMJs and mandible as well as counterclockwise rotation of the maxillomandibular complex.

**Condylar Hyperplasia of the Temporomandibular Joint: Types, Treatment, and Surgical Implications** 155

Daniel B. Rodrigues and Vanessa Castro

Condylar hyperplasia (CH) is a progressive and pathologic overgrowth of either or both mandibular condyles, which can affect the neck, ramus, or body of the mandible. It may lead to facial asymmetry, malocclusion, speech, and masticatory problems. Identifying the specific type of condylar hyperplasia is crucial. Serial radiographs, dental models, clinical evaluations, and bone scan techniques are usually the best diagnostic methods to determine the type of CH and if the growth process is still active. The protocol of surgical procedures recommended in this article for CH has been proven to treat the condylar pathology and correct the jaw deformity.

**Index** 169