TEMPOROMANDIBULAR JOINT & CERVICOCRANIAL DYSFUNCTION IN THE EDS PATIENT

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A Look at Two Syndromes:

How TMJ and CCD impact the EDS patient as they occur separately or together
UNDERSTANDING EDS & TMJ

- EDS is the name used for a group of connective, often hereditary tissue disorders
- This condition affects the body’s collagen, which literally holds body together, resulting in loose, flexible joints
- Among affected joints are those in neck and jaw, often triggering TMD, requiring specialized care

WHAT IS TMJ?

Temporomandibular Joint Disorder (TMJ or TMD) is “shorthand” for a complex syndrome of dysfunction of the jaw to the skull, including the cartilage and related muscles, as well as the associated pain and symptoms
1. Inferior Anterior Synovium
2. Superior Anterior Synovium
3. Lateral Colateral Ligament
4. Temporomandibular Ligament
5. Inferior Posterior Synovium
6. Superior Posterior Synovium
7. Posterior Ligament
8. Retrodiscal Area
Detail of Symptoms: Abnormal Jaw Movements & Pain

- “Locked” jaw (open or closed)
- Jaw deviates to affected side
- Problems finding stable bite position
  - Can’t find comfortable “closed” (bite) position
- TM Joint noise when opening or closing
  - “Cracking” or “popping”
- Overall limited or excessive jaw movement

Classic TMJ Disorder Symptoms

Complex and overlapping symptoms include:

- **Frequent headaches**, occurring when upon waking and may possibly redevelop in late afternoon
- **Abnormal and/or painful jaw movements**
- **Ear pain**
- **Pain in or around eye area**
- **Cheek pain**
- **Mandibular pain**
WHAT IS CCD?

Cervicocranial Disorder or CCD is “shorthand” for a complex disorder emanating from the upper vertebra of the neck, including the related pain and symptoms.

Detail of Symptoms:
Classic Cervicocranial Symptoms

- Limited head movement, especially rotation
- Trouble swallowing
- Forward head posture
- Upper back pain
- Sore, tender or weak neck
- Frequent “snapping” or “popping” of neck with regular head movement
- Cervical referral pain into facial area
The “Map” of CCD Pain
Where it starts/where it hurts

C-O (skull)--Forehead
C-1 (atlas)--------Eye
C-2 (axis) -------Cheek
C-3------------------Jaw

Convergence Mechanism

- The overlap between Trigeminal nerve and Greater Occipital and Cervical nerves.
- The Trigeminal Nucleus Caudalis extends to the C-2 Spinal segment and to the lateral cervical nucleus in the dorsolateral cervical area.
- Symptoms in the Trigeminal or cervical territories produce symptoms in either area.
Detail of Symptoms: TMJ & CCD Headaches

Potential Sources & Types

- Muscular spasms & stricture
  - Temples
  - Back of head (Occipital)
- Circulatory (constriction OR dilation)
  - Back of head (Occipital)
  - Below the ear (Mastoid)
- Neurological aberrations
  - Migraine-like headache
  - Referral (source ≠ painful spot)
- Skeletal (Vertebral) Displacement
  - Occipital (or Cervical) Referral

Detail of Symptoms: Ear Pain

- Mimic an earache
- Tinnitus (ringing in the ears)
- Hearing loss
- Itching in ear
TMJ Pathologies

- **Organic**
  - Congenital (Aplasia)
  - Tumors
  - Fractures

- **Arthrogenous**
  - Functional
    - Hypermobility
      - Subluxation
      - Dislocations
      - Internal Derangements

TMJ Pathologies, con’t

- **Inflammatory**
  - Synovitis/Capsulitis
  - Arthritis (osteoarthritis and osteoarthritis, RA)

- **Myogenous**
  - Myositis
  - Myospasm
  - Myofascial Pain Dysfunction Syndrome (MFDS)
  - Dystonia
  - Neoplasms
TMJ Pathologies, con’t

- Idiopathic Condylar Resorbsion
  - Spontaneous (associated with trauma)

EDS & TMJ and/or CCD: Diagnosis is the Critical First Step

- A diagnosis of EDS often precedes TMJ
- A preliminary exam of skeletal joint mobility is performed to confirm the diagnosis
  - History & Chief complaints
  - Symptomatology
  - Visual & Physical evaluation
  - Hypermobility, including quantifying measurements
  - Soft tissue imaging
IMAGING TECHNIQUES FOR TMJ

- 2D
  - Panograph, Transcranial, Tomograms, Arthrograms
- 3D
  - CT
  - MRI T-1, T-2, Gradient
  - Flair (fast T-2), (shows edema),
  - STIR (suppress fat content- good for MS diagnosis)

INFLAMMATORY PRECAUTIONS

- 1) Vitamin D-3, 2000 to 10,000 IU per day
- 2) Doxycycline (50 mg, BID for 3 months)
- 3) Omega 3 – 2.6 mg / day
- 4) NSAIDS
- 5) Glucosamine (1500mg /day)
- 6) TMJ splint
- 7) Muscle relaxants
EDS, TMJ & Sleep

EDS + TMJ can affect sleep by compromising jaw position and/or tissue integrity

3 States of Consciousness:
1. Wakefulness
2. NREM
3. REM
   - Types of Airway Constriction
     - OSA (Obstructive Sleep Apnea)
     - UARS (Upper Airway Resistance Syndrome)
**Obstructive Sleep Apnea**

- Air way closes (soft palate, tongue, tonsils)
  - Occurs in REM sleep—last 1/3 of the night
  - Breathing may stop for 10 seconds – 2 minutes
  - May experience 20-60 events per hour
  - P-O2 decreases; may cause vital organ damage

**UARS—Upper Airway Resistance Syndrome**

- Pharyngeal obstruction and decreased air flow
  - Affects women more than men

- Sleep Related Symptoms:
  - Breathing maintained, but strained
  - Wake frequently
  - Snoring
  - Parasomnias (ex: RLS, bed wetting)

- Non-sleep related symptoms:
  - Depression
  - Memory loss
  - High blood pressure
  - Morning headaches
  - Heart conditions
  - Intellectual Deterioration
  - Sexual problems
  - AD/HD
  - Weight gain
TREATMENT

Physician Recommended PLS (Polysomnography)—Sleep Test

CASE STUDIES
Diagnosed EDS Patient

Symptoms:
- Temporal & frontal headaches
- Bilateral neck pain
- TMJ pain over joint & along mandible
  - Pain increases with repetitive chewing
- C-2 rotation to left
- Lordotic curve at C-3/4
- Opening at exam = 23mm; at last appointment = 42mm

Diagnosis: Right reducing, left non-reducing discal subluxation of the TM joints, Lordosis with C-2 vertebral rotation to the left

Treated with:
- Pivotal Appliance
- Anterior stabilizing positioning appliance
- Cervical stabilization and muscle activation
- Continued night wear of appliance for stabilization

Outcome: Less frequent/less intense headaches, jaw and neck pain relief
85% Improvement overall
Sabrina
43 year old female

- **Diagnosed EDS Patient**
- **Symptoms:**
  - Pain in cheek & ear C function
  - Headaches 2-3/week, wakes C in L temporal area
  - Problems began 1.5 years ago when jaw popped out of joint
  - Bite feels off
  - Hyper mobility C jaw motion
    - 40mm opening, but 16-17mm lateral motions
  - Neck tightness & pain in C-3/4 area on left side
- **Diagnosed:** left capsulitis, L retro discitis, bilateral joint hypermobility C spontaneous bilateral meniscal subluxations

**CASE STUDY 2:**
**TREATMENT & OUTCOME**

- **Treated with:**
  - Pivotal appliance
  - Physical Therapy
  - Stability-specific orthodontics
  - Equilibration of teeth
  - Continued night wear of appliance for stabilization

- **Outcome:** Near-complete headache relief; significant decrease in neck pain; occlusion and bite stabilized

**90% Improvement overall**
IN SUMMARY:

• Start with in-depth evaluation and diagnosis
• In the EDS patient, management is often preferable to surgical solutions
• The best outcomes often involve a combination of treatment modalities

Work closely with a Craniofacial Pain/TMJ practitioner with EDS-specific experience, and YOU WILL FIND YOUR ANSWERS!