

Facilitator's Guide

Case Presentation

Chief Complaint: Headache

Patient History:

This is a 47 year-old white female who complains of headache in the midline of the occipital region, present since early morning 3 days previous. The headache is constant and burning with occasional sharp, stabbing pains. The patient has a history of multiple sclerosis, and reports similar headaches in the past, but never with this much pain or sudden onset. The patient also reports a history of migraines and diabetes type 2. She has been treated with IV morphine sulfate and ketorolac (Toradol) with some improvement. However, she continues to complain of significant occipital pain. She reports both photophobia and photophobia with these headaches

Meds:

Toradol, Metformin, Darvocet (prn)

Past Medical History:

Multiple sclerosis (MS), diabetes mellitus type 2, migraines, history of breast lumps/nodules, and history of anterior chest wall abscess which cultured positive for methicillin-resistant staphylococcus aureus (MRSA).

Past Surgical History:

Hysterectomy in 1987, cholecystectomy in 1988, and bladder surgery in 2002.

Review of Systems:

Eyes: She reports both photophobia and photophobia with these headaches

Musculoskeletal: Chronic complaints of muscle stiffness along with neck and head pain.

Neurologic: History of migraines and headaches secondary to flair-up of her MS. Patient also will experience numbness and tingling in her face and hands periodically.

Physical Exam:

Vitals: BP 142/87; HR 87; RR 16; Temp 98.9; SpO2 99% RA

General: WD/WN WF NAD, but obvious pain secondary to HA

HEENT: No abnormal findings

Cardio/Pulm: No abnormal findings

Neuro: Cranial Nerves II – XII are grossly intact without lateralizing signs. Deep tendon reflexes are slightly increased but are symmetrical in the upper and lower extremities.

OMM Focused Structural Exam

- The patient was examined in the sitting and supine positions.
- Tissue texture changes are evident in the paraspinal muscles or the cervical, thoracic, and lumbar spines.
- Posterior C1 tender points are palpated bilaterally. Trigger points are elicited bilaterally in the Semispinalis Capitis muscles with referred pain into the shoulders.
- The OA is FSRRL with the flexion component most significant. The AA is rotated right. Tenderness is palpated over the lateral mass at C1 and C2. Pressure on the greater occipital nerve reproduces some of the headache. Also, C3 is FRSL with C4 ERSR.
- In the thoracic region, T3 is F, RSR with T4 – T7 NSLRR.
- Rib #3 on the right is posterior.

Assessment:

Be prepared to discuss this at the OMM session. Indicate the primary Medical Diagnosis based upon the international Classification of Diseases (ICD-9). This justifies the Evaluation and Management (E&M) coding portion of the visit. List all secondary, co-morbid, and complicating factor diagnoses in order of importance. Itemize somatic dysfunction diagnosis for each body region treated using OMT. This justifies reimbursement for OMT. Be prepared to discuss management of typical comorbid and complicating factors associated with the patient's diagnosis and how management and treatment would be modified with each comorbid and complicating factor.

Section II: Mini-Lecture/Discussion (approximate time 20–30 minutes)

Discussion Questions

Teaching Points

<p>1. Propose an appropriate differential diagnosis / assessment/final diagnoses</p>	<p>Differential Diagnoses:</p> <ol style="list-style-type: none"> 1. C2–C3 subluxation/arthropathy 2. C2–C3 radiculopathy 3. Migraine headache 4. Cluster headache 5. Tension-type headache 6. Tumor (e.g., posterior fossa) 7. Cervicogenic Headache 8. Congenital or acquired abnormalities at the craniocervical junction (e.g., Arnold-Chiari malformation or basilar invagination) 9. Rheumatoid arthritis 10. Atlantoaxial subluxation 11. Cervical myelopathy 12. Pott's disease/osteomyelitis 13. Paget's disease <p>Primary Diagnosis: Occipital neuralgia Secondary Diagnosis: Tension headache neck pain MS DM Type II</p> <p>Somatic dysfunction related to diagnosis: Head, Cervical, Thoracic, and Ribs</p>
<p>2. How do you explain the current structural findings in the context of this case?</p> <ul style="list-style-type: none"> • Are any relevant structural findings missing? • What would you do differently? Why? 	<ul style="list-style-type: none"> • Somato-somatic reflexes, manifesting as myofascial changes and somatic dysfunctions. • Missing findings include muscle tightness in the trapezius and deep musculature of the cervical/suboccipital region, and evaluation of the CRI, TMJ, and neck fascia. <p>These areas need to be addressed</p>
<p>3. What pathophysiology & functional anatomy knowledge is pertinent for diagnosing/treating this patient</p>	<p><u>Pathophysiology</u> and <u>Functional Anatomy</u></p> <ul style="list-style-type: none"> • The greater occipital nerve is the largest purely afferent nerve in the body, innervating the posterior skull from the suboccipital area to the vertex. • It is formed from the posterior division of the second cervical nerve. • Within the substantia gelatinosa of the spinal cord, the afferent fibers from this nerve lie in close approximation to the nucleus and spinal tract of the trigeminal nerve. • Rather than exiting through a discrete spinal foramen, the nerve leaves the bony spinal column between the arch of the atlas and axis.

	<ul style="list-style-type: none"> • It travels inferolaterally toward the area of the C2–C3 zygapophyseal (facet) joint and then curves around the inferior oblique capitis muscle to ascend toward the occiput deep to the semispinalis capitis muscle. • It pierces either through the tendinous insertion of the trapezius muscle or between the trapezius and semispinalis muscles to reach the subcutaneous tissue of the occipital area. • The site of perforation through these muscles is located just medial to the occipital artery. <hr/> <ul style="list-style-type: none"> • The lesser occipital nerve forms from the anterior divisions of the second and third cervical nerves. • It ascends along the posterior margin of the sternocleidomastoid muscle, where it provides sensory fibers to the area of the scalp lateral to the greater occipital nerve.
<p>4. Which 1 or 2 of the aspects below has the greatest influence on the patient complaint?</p> <ul style="list-style-type: none"> • Pain • Fluid congestion • Hyper-sympathetic influence • Parasympathetic influence 	<p>Pain</p> <p>Fluid congestion</p> <p>All of these aspects have significant influence on the primary complaint. All of them are also modified by the patient’s comorbidities.</p>
<p>5. Devise an appropriate treatment plan based on musculoskeletal components involved in the patient complaint</p>	<p>Goals for OMM Management:</p> <ul style="list-style-type: none"> • Physical and manual modes of therapy are important therapeutic modalities for the acute rehabilitation of cervicogenic headache. • A controlled trial testing the effectiveness of therapeutic exercise and manipulative treatment for cases of cervicogenic headache found that efficacy was not substantially affected by age, gender, or headache chronicity in patients with moderate to severe pain intensity. This finding suggests that all patients with cervicogenic headache could benefit from manual modes of therapy and physical conditioning. <p>The treatment plan could include:</p> <ul style="list-style-type: none"> • Osteopathic manipulative techniques such as craniocervical, strain-counter strain, and muscle energy techniques are particularly well suited for the management of cervicogenic headache. • High velocity, low amplitude manipulation can be carefully used in some patients, though it is not unusual to observe an increase in headache intensity after manual modes of therapy of this type, especially if it is delivered too vigorously. • Physical treatment modalities are generally better tolerated when initiated with gentle muscle stretching and manual cervical traction. <p>Therapy can be slowly advanced as tolerated to include strengthening and aerobic conditioning. Using anesthetic blockade and neurolytic procedures for temporary pain relief can enhance the efficacy and advancement of physical modes of therapy.</p>

Procedure Services: Osteopathic Manipulative Treatment							
Code			Description				
	98925		Manipulation, 1-2 areas				
X	98926		Manipulation, 3-4 areas				
	98927		Manipulation, 5-6 areas				
	98928		Manipulation, 7-8 areas				
	98929		Manipulation, 9-10 areas				
CPT Diagnostic Codes: Rank in order of Importance							
Diagnosis			Somatic Dysfunction				
Code	Description		Code	Description		Code	Description
		X	739.0	Head		739.5	Hip/Pelvis
		X	739.1	Cervical		739.6	Lower Extremity
		X	739.2	Thoracic		739.7	Upper Extremity
			739.3	Lumbar	X	739.8	Rib
			739.4	Sacrum/Sacroiliac		739.9	Abdomen

Section IV: Final Wrap-up and Questions/Answers