By Jessica Heath and Neal Goulet

If you stick your neck out for someone, the saying suggests, then you’ve taken some risk.

In this technology-driven age, we’re literally sticking our necks out at the risk of causing very real headache pain. An article in Men’s Journal used the term “the desk worker’s malady,” while a BBC story called it “text neck.”

“The problem is that we’re craning our heads forward over our screens,” according to the BBC, “and it’s creating intense pressure on the front and backs of our necks.”

That pressure can cause pain that manifests as a headache. This pain actually isn’t in the head but rather is “referred” from the neck.

The first part of “cervicogenic” refers to the cervical spine, comprising seven bones more commonly known as the neck; “genic” means that the headache is generated in this area, particularly the upper three bones. In other words, what feels like a dull, achy pain in the head really has its roots in the neck.

A “cervicogenic episode” can last one hour to one week. Pain typically is on one side of the head, often correlating with the side of the neck where there is increased tightness. Almost certainly, range of motion will be compromised.

Common causes of CGH can be chronic: poor posture, as noted above, or arthritis. They also can be traumatic: the result of sudden, forceful movement of the skull and neck as with whiplash caused by a car accident, a fall, or an athletic collision.

Headaches that develop three or more months after a concussion, according to one study, generally are not caused by brain or head injury. This suggests a connection to the cervical spine.

This study also indicated that CGH affects four times more women than men. Neck positions and specific occupations, such as hairdressing, carpentry and truck/tractor driving, have been linked to CGH.

Diagnosis of CGH can be tricky because it can resemble other headaches and can trigger other headaches, such as a migraine.

Doctors may look for the source of the pain by attempting to use a nerve block. This involves an injection into the neck of an anesthetic that can help determine which nerve is causing the pain.

Those suffering from headaches try many remedies. Medication, massage and even botox injections have been used to address pain. Of course, medication can only mask the pain, not resolve its cause. One study found that botox was no better than a placebo at providing pain relief.

Most often, CGH results from the joints of the neck being stiff, sore and inflamed. The adjacent nerves become irritated and refer pain to the neck, shoulder and head, including the face and behind an eye.

What the abdominal muscles do to support the low back, the deep neck flexor muscles

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do for the neck. This group of
muscles is on the front of the
neck and helps with simple
movements, including nodding
and turning the head.

Over time, poor posture can
weaken the deep neck flexors,
allowing the head to move for-
ward and changing the overall
alignment of the spine. This
could cause chronic neck pain
if not corrected.

Physical therapy and an
ongoing exercise regiment,
according to the American
Migraine Foundation, “often
produce the best outcomes.”

Physical therapy as a treat-
ment for headaches is a compre-
hensive approach. The therapist
will conduct a detailed patient
history, including stressors,
work history and postures, and
recreational activities that may
contribute to the pain and
other aggravating factors.

An initial assessment also
will include palpation of the
cervical muscles that are often
painful and tight, range of
motion assessment, cervical and
thoracic mobility testing, postur-
al muscle stabilization strength
testing, and deep neck muscle
strength and endurance testing.

Often, early treatment will
begin with postural education
and modalities to relieve pain
and assist with compliance in
maintaining good posture.
Taping techniques can be used
to alleviate pain and to assist
with postural awareness.

Manual therapy (hands-on
treatment) also will be used.
Therapists may need to incor-
porate techniques to decrease
the tone of muscles (over-devel-
oped because of compensation)
in the cervical spine or improve

the mobility in the cervical and
thoracic spine.

As the treatment progresses,
it is important for the therapist
also to teach the patient good
postural stability and strength-
ening exercises.

The combination of manual
therapy, postural education and
strengthening has been found
to be effective in the treatment of cervicogenic headaches.

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CERVICOGENIC
HEADACHE
ILLUSTRATED

1 Atlanto-occipital joint: can refer
pain to the supra-orbital region

2 Atlanto-axial joint: can refer pain
to the top of the head

3 C2-3 Zygopophyseal joint and
disc: can refer pain to the base
of the skull

4 Capsule, ligaments: can cause
local symptom referral. In cases of
cervical trauma, these structures
can lead to instability of the above
joints and lead to headaches

5 Suboccipital muscles: help stabi-
lize the upper cervical spine and
if tight can compress the upper
cervical joints, causing pain

Deep neck flexors: located anteri-
ory (front), these muscles stabilize
the cervical spine and must be
strong to reduce headaches

<table>
<thead>
<tr>
<th>TYPE OF HEADACHES</th>
<th>CAUSE</th>
</tr>
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</table>
| Cervicogenic            | Inflammation or mechanical dysfunction of the
                           | upper cervical joints, ligaments and muscles |
| Tension                 | Spasm or hypertonicity of the cervical or   |
                           | cranial musculature                         |
| Migraine                | Vascular, autonomic nervous system          |
| Cluster                 | Vascular, autonomic nervous system, increased|
                           | levels of histamine                         |
| Chronic paroxysmal      | Vascular, autonomic nervous system          |
                           | hemicrania                                 |
| Temporomandibular       | Inflammation or mechanical dysfunction of   |
                           | the temporomandibular joint and the         |
                           | masticatory muscles                         |
Managing Cervicogenic Headaches with Conservative Treatment

By Kyle Baiocchi

INTRODUCTION

Cervicogenic headaches are chronic or recurring in nature and have been found to arise from musculoskeletal dysfunction of the cervical spine (neck). The lifetime prevalence of headaches in adults may be as high as 20 to 30 percent.

Conservative treatment, such as physical therapy, often is recommended as a first line of headache management. Treatment may include manual therapy, exercise or a multimodal approach.

The purpose of this study was to assess the short- and long-term effectiveness of manual therapy and a low-load exercise program, used alone or in combination and compared with a control group that received no treatment.

METHODS

Participants ranging in age from 18 to 60 were included in the study if they experienced a headache that was unilateral (on one side) or unilateral dominant (worse on one side than the other) and associated with neck pain. These symptoms needed to be aggravated by neck postures or movements and present for at least one week over a period of two months to 10 years.

The subjects were randomly assigned to one of four groups: a control group that received no treatment; a group that received manual manipulative therapy; a group that received therapeutic exercise using low-load endurance exercises to the cervicoscapular region; and a group that received both manual therapy and therapeutic exercise.

RESULTS

All treatment groups demonstrated a significant reduction in headache frequency and intensity and neck pain immediately after treatment and at 12 months compared with the control group.

Seventy-two percent of participants achieved a reduction of 50 percent or more and 42 percent of participants reported 80 to 100 percent relief at the 12-month follow-up, which rendered the findings clinically relevant.

This study found that conservative treatment of combined manual therapy and a specific exercise program were effective in the management of cervicogenic headaches, with results being maintained in the long term.

DISCUSSION

Cervicogenic headaches are a common ailment suffered by adolescent and adult populations. Physical therapists have the potential to relieve symptoms of headaches and address underlying musculoskeletal impairments.

In six weeks of conservative therapy, the researchers achieved positive long-term outcomes and provided patients with self-management strategies of exercises and postural awareness to reduce the risk of recurrence.

REFERENCES


<table>
<thead>
<tr>
<th>SIGNS AND SYMPTOMS</th>
<th>LOCATION OF PAIN</th>
<th>PHYSICAL THERAPY TREATMENT OPTIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neck pain or stiffness</td>
<td>Neck or base of head, can refer to any part of head; may be one-sided or two-sided</td>
<td>Manual therapy, exercise, postural education and strengthening</td>
</tr>
<tr>
<td>Tight muscles in the cervical spine, light and sound sensitivity</td>
<td>Bilateral (on both sides)</td>
<td>Relaxation techniques, bio-feedback and exercises to lengthen short muscles</td>
</tr>
<tr>
<td>Aura (focal neurological, symptoms for less than an hour, visual disturbances), light and sound sensitivity, vomiting</td>
<td>Usually one-sided but may change sides</td>
<td>Bio-feedback, education, manual therapy for any associated mechanical dysfunction</td>
</tr>
<tr>
<td>Usually recur over a period of time, usually same time each year. Nasal congestion, runny nose, facial sweating, eyelid edema, eye pain</td>
<td>One-sided behind the eye, above the eye or on the head</td>
<td>Education regarding precipitating factors, headache log, bio-feedback</td>
</tr>
<tr>
<td>Nasal congestion, runny nose, facial sweating, eyelid edema</td>
<td>One-sided behind the eye, above the eye or on the head</td>
<td>Education regarding precipitating factors, headache log, bio-feedback</td>
</tr>
<tr>
<td>Pain with jaw movement; bruxism, joint tenderness, popping, clicking</td>
<td>Face and temporal or on the head</td>
<td>Manual therapy, exercises to address dysfunctions, mouth appliances, education regarding posture and habits</td>
</tr>
</tbody>
</table>
By Misty Seidenburg

PATIENT HISTORY

A 49-year-old female was referred to physical therapy for complaints of chronic headaches. She was referred to therapy by her neurologist because of limited success with pharmacological treatment.

The patient, a stay-at-home mom, was responsible for all of the household chores and enjoyed playing computer games for two hours per day. Her headaches limited her ability to complete some of her household tasks such as laundry. She was unable to look at the computer or read for more than 30 minutes without a headache occurring that required migraine medication to relieve the pain.

At the time of evaluation, the patient complained of retro-orbital (behind the eye) headaches and suboccipital (base of the head) tenderness. She also noted a history of neck and thoracic stiffness that she attributed to stress. She rated her symptoms as 5-9 on a scale of 0 (no pain) to 10 (worst pain ever felt).

ASSESSMENT

Analysis of the patient’s posture revealed a forward head, rounded shoulders, and increased thoracic kyphosis (rounded mid-back). Cervical spine range of motion was significantly restricted with 30 degrees of flexion (normal 80-90); 10 degrees of extension (normal 70); 45 degrees of rotation bilateral (normal 90); side bending right 15 degrees and side bending left 5 degrees (normal 20-35), with cervical pain and stiffness in all directions.

Flexion and side bending also worsened the patient’s headache. The patient was tender to palpation along both upper trapezius and suboccipital musculature. Functional testing revealed limited overhead reach. Her head moved forward incorrectly when she reached overhead.

The physical therapist hypothesized that she suffered from cervicogenic headaches.

TREATMENT

Initial treatment consisted of postural correction; manual techniques including soft tissue massage to reduce muscle tone and tenderness along her upper trapezius and suboccipital muscles; and kinesiotaping to assist with pain relief by aiding postural control.

By the third visit, muscle tone and tenderness were reduced and cervical range of motion was minimally improved. The patient reported continued difficulty with sustained sitting postures but increased ease with doing laundry.

The addition of cervical retraction exercises to her program immediately improved cervical range of motion and overhead reach with decreased pain. To progress range of motion even further, manual treatment addressed upper thoracic mobility.

As the patient progressed, scapular stabilization, deep neck flexor strengthening, and functional reaching exercises were added to address her remaining impairments and self-reported activity restrictions.

SUMMARY

By the fourth week, the patient’s headaches were occurring seldom, requiring less medication to address her pain. She was able to complete most of her home activities but reported continued difficulty with sitting for more than one hour at a time.

The patient was progressed with manual treatment to address upper cervical mobility and was seen for two additional weeks to restore full functional cervical range of motion. At the time of discharge, she had achieved her range of motion goals and returned to all previous activities of daily living without symptoms or need for medication.