

ASSOCIATION OF CERVICOGENIC HEADACHE WITH CERVICAL RADICULOPATHY

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HIGHLIGHTS

- This cross-sectional study was conducted on 150 adult population, after taking consent to participate in the study. Adults aged 20 to 32 years with cervicogenic headache associated with cervical radiculopathy.
- The result showed no association of radiculopathy with age however age is strongly associated with pain.
- The study results showed that age negatively correlates with cervicogenic headache with a p-value of -0.027.

ABSTRACT

Background: Cervicogenic headache (CGH) is related to the upper cervical spine. CGH is characterized by pain arising due to the upper three cervical nerves it is examined to occur by the convergence of the nociceptive afferents of the trigeminal and upper three cervical spinal nerves with secondary sensory neurons in the trigeminal cervical nucleus examined to extend from the cervical region up to the head. **Objective:** To determine the association of cervicogenic headache with cervical radiculopathy. **Material and Methods:** This cross-sectional study was conducted on 150 adult populations after taking consent to participate in the study. Adults aged 20 to 32 years with cervicogenic headaches associated with cervical radiculopathy were selected for the study. The short form 36 questionnaire was used to evaluate the quality of life and the numeric pain rating scale to measure pain intensity. **Results:** The results showed no association of radiculopathy with age however age is strongly associated with pain numerically represented by a chi-square test with a p-value of 0.350. **Conclusion:** This study showed the association of cervicogenic headache with cervical radiculopathy. The high frequency is

38.1% in the adult population aged 24-28 years with cervicogenic headache but that age negatively correlates with cervicogenic headache with a p-value of -0.027.

Keywords: cervicogenic headache, cervical radiculopathy, SF-36, quality of life

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INTRODUCTION

Cervicogenic headache (CGH) is related to the upper cervical spine that might be linked to the sub-occipital region where groups of both minor and major muscles are located.¹ CGH is a warning migraine that is marked by a persistent single sore head, it gets chronic by neck movement, steady positioning of the head in tricky arrangement and showing outer pressure on the occipital region. This pain arises by the upper three cervical nerves it is examined occurs by the convergence of the nociceptive afferents of the trigeminal and upper three cervical spinal nerves with secondary sensory neurons in the trigeminal cervical nucleus is examined to extend from the cervical region up to the head.²

Cervicogenic headache with musculoskeletal derangement is not ordinary and there is no proof for exercise no study has explored the effects of merge therapies on cervicogenic headache key result was a change in headache frequency other result includes the swap in headache intensity.³ Prevalence of this type of headache in the

community with 53% and is normally changing between 0.4% and 20%. In Pakistan, the prevalence of CGH has a population of 17.5%. Treatment is medicine non-steroidal anti-inflammatory muscle relaxers. Anesthetic clog of the cervical region or related nerve may lower the pain. Physical therapy including stretches and exercises can help to treat cervicogenic headache.⁴ Origin of cervicogenic headache deformity in the shape of the neck can be a notable source of a headache it is clear that the cervical region holds many painful tender structures, and that these are tending to injury.⁵

The definitive cervicogenic headache is marked as a repeated, long-lasting, severe one-sided headache. The headache is always ruling on one side but may also present on both sides to a lesser degree.⁶ Cervicogenic headache is also created by myofascial provoke point in the sterno-cleidomastoid cervicogenic headache chiefly our cervical nerve (C2- C5) and facet joint (C2/ C3) is a plug.⁶ A cervicogenic headache exists as one-sided pain that is in the neck it is a common long-term and repeated headache that usually originate after the neck moment it normally goes with a decreased range of motion it could be tangled with a migraine tension headache or other main headache disorder.⁷ It can be hard to know what kind of headache you have but if it's connected to a problem in your neck, there's a good chance it's cervicogenic. cervicogenic headache causing hesitancy and pain in the cervical region.^{3,5,8}

Medically it is treated with nonsteroidal anti-inflammatory drugs with other muscle relaxants or in physical therapy stretching and manual cervical traction or applying TENS to the patient's sterile rawness and adrenaline within the C-fibers that lead to cervical disc pathology is even aggravate the pain in a cervicogenic headache. It is to be mentioned, pain starts to soreness leading to cervical structures supplied by spinal nerves C1, C2 and C3 so, any structure animated by C1 - C2 spinal nerves could be the origin of a

cervicogenic headache sign include decrease ROM pain in one side of the face or head severity in the neck causes nausea and blurred vision.⁹

Cervical Radiculopathy is a clinical state that stem from condense of the cervical nerve root the clinical display of cervical radiculopathy is broad and may include pain, sensory loss, motor loss and decline reflex.¹⁰ Cervical radiculopathy sign includes pins tingling on the nerve root which can be compression, impatience, traction, and a lesion on the nerve root beginning by either a herniated disc cervical radiculopathy is an inefficiency of a nerve root in the cervical spine, is a broad disorder with several systems it can affect people of any age with crest fame between the ages of 40 - 50 treatment include medication like ibuprofen or naproxen or in physiotherapy include cervical traction and mobilization, exercises and other modalities to diminish pain mulligan SNAGS is most effective treatment.¹¹

Around 50 percent of the world's population is impaired from the cervicogenic headache.¹² and in neighboring countries the prevalence of cervicogenic headache is about 12%¹³ or world the popularity of cervical radiculopathy is about 27.0¹⁴ and in neighboring countries the prevalence is about 13.1 and in Pakistanis about 68.9 per population bear from cervical radiculopathy.¹⁵ The purpose of this study was to understand and empirically describe the association of cervicogenic headache with cervical radiculopathy in young adults besides this based on the author's self-experience.

MATERIAL AND METHODS

A cross-sectional study was conducted among young adults with cervicogenic headache and radiculopathy within four months from August to November 2022. It included both genders with an age range of 20-35 years with a history of headache associated with neck pain. With no prior injury or any musculoskeletal disorder of the head or neck. A numeric pain rating scale (NPRS) and short form 36 (SF-36) questionnaire

were used to explain the association between cervicogenic headache and radiculopathy in young adults.

RESULTS

There were 23.3% of participants with age ranges between 20 to 24 years, 38.1 % with an age range from 24 to 28 years and 23.9% with age range of 28 to 32 years. It also presented the gender distribution among the sample including 21.6% of participants as females and 63.6% of participants as males recruited in this study (Table I).

Table I: Frequency and Percentage of Age Group, Gender and Cervicogenic Headache

Variables		Frequency	Percentage
Age Group	20-24	41	27.33%
	24-28	67	44.66%
	28-32	42	28.00%
Gender	Female	38	25.33%
	Male	112	74.66%
.....		97	64.66%
.....			
Severe Headache		53	35.33%

There were (5.1%) participants have a range of physical health is 4.00, (20.5%) participants have 5.00, 29.55 participants had 6.00, (25.6%) participants have 7.00 and (4.5%) participants had a range of 8.00. The study results showed that cervical radiculopathy and cervicogenic headache are strongly associated with each other numerically represented by the chi-square test with a p-value of 0.000. The study results showed that cervical radiculopathy, CGH, functional status and economic status are strongly associated with each other. It was numerically represented that age has a negative correlation with pain with a p-value of -.045 and pain has a positive correlation with functional status with a p-value of 0.025.

DISCUSSION

There is a lack of evidence related to the association of cervicogenic headache with cervical radiculopathy in young adults and it was conducted on 150 patients. In 2019, Yeliz Bahar work on 45 women with CGH having cervical radiculopathy and the pain assessment of the patients was done by the visual analog scale and the disability assessment was tested with the neck disability index. This study showed that there is a positive correlation between cervicogenic headache with cervical radiculopathy with a p-value of 0.002.¹⁶ In 2022, Kumar selected 55 males and females age ranging from 21 to 49 years having cervicogenic headache, the data was analyzed by using SPSS and the result showed that the age-wise and gender wise distribution of patient out of 55 samples with were studied number of patients who presented with the complaint of cervicogenic headache are present in the age group of 21- 30 years have (30.90%) followed by in the age group of 31-40 years having (25.45%) gender-wise distribution shows females have a higher rate (54.55%) of presentation with cervicogenic headache as compared to males (45.4%).¹⁷

According to the results, 23.3% of participants had age ranges between 20 to 24, 38.1 % had 24 to 28 years while the 23.9 had the age range of 28-32. It showed that the descriptive statics of age and 21.6% participants were females and 63.6% were males. Additionally, it was discovered that individuals with headache and cervical radiculopathy had higher neck disability index and more intense neck, shoulder and arm pain than patients without headache.¹⁸ The CGH could theoretically be related to a number of cervical lesions.¹⁹

The majority of cervical lesions do not cause any headaches. Few occurrences of neck/radicular discomfort may be caused by spondylosis, a prevalent degenerative illness that affects up to 70% of individuals as they age, but relatively few patients report headache and only 16 to 20% of

people reported having cervical discogenic pain.²⁰⁻²³ Upper cervical spinal tumors were the main cause of previously documented cases of cervicogenic headache brought on by spinal cord malignancies.²⁴

CONCLUSION

It is concluded that there was a significant association between cervicogenic headache and radiculopathy. About 38.1% of the population has cervicogenic headache along with cervical radiculopathy. However, age is negatively correlated with the headache and radiculopathy with p-value -0.027

DECLARATIONS

Consent to Participate:

Written consent had been taken from participants. All methods were performed following the relevant guidelines and regulations.

Availability of data and materials: Data will be available on request. The corresponding author will submit all dataset files.

Competing interests: None Funding: No funding source is involved.

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