



AN EPIDEMIOLOGICAL STUDY OF ENT RELATED COMPLAINTS OF PATIENTS OF CERVICAL SPONDYLOSIS IN ALMORA DISTRICT OF KUMAUN REGION OF UTTARAKHAND

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KEYWORDS :

Referred earache, throat pain and dizziness are common symptoms with which patients present in ENT OPD. One of the cause for it is cervical spondylosis. In this study, we studied the ENT manifestations of cervical spondylosis. A total of 50 patients were studied in SSJGIMSR Almora from a period of September 2020 to February 2022, majority of which were females from rural area in the age group of 18- 70 years. After doing a thorough clinical examination no apparent cause of the symptoms was seen related to the ear, nose or throat. The patients were further investigated and cervical spondylosis was found as the cause of the symptoms. Cervical spondylosis was seen early in patients with a history of overhead weight carrying which is a common practice in the hilly Kumaon region of Uttarakhand.

The term cervical spondylosis includes a range of progressive and degenerative changes that can affect various components of the cervical spine. This encompasses the intervertebral discs, facet joints, joints of Luschka, the laminae and ligamenta flava. It is seen in majority of population after fifth decade of life as a part of natural process of ageing [1].

It can be defined as vertebral osteophytosis secondary to degenerative disc disease. This occurs due to the formation of osteophytes with progressive spinal segment degeneration [1–3]. During early stage of spondylosis, degenerative changes are seen within the intervertebral disc with disc desiccation thereby decreasing disc height. These changes decrease the ability of the disc to bear axial loads along the cervical spine [4].

Extrinsic load on cervical spine from head weight lifting leads to degeneration of the spinal segment which can be seen as narrowing of disc space, decrease in vertebral height and osteophyte formation[5]. Overhead weight carrying is a common practice in the Kumaon region of Uttarakhand for fuel and fodder. This causes everyday wear and tear which can start spondylotic changes in cervical spine. The patients present in otolaryngology clinic for pain in throat, pain radiating to ipsilateral ear and dizziness.

Cervical spondylosis usually presents as neck pain. If the deformity in the cervical spine is severe, nerve or spinal cord compression can occur leading to myelopathy and/ or radiculopathy. Further malalignment of the cervical spine can cause cough and problems with swallowing, respiration and horizontal gaze[6].

Various symptoms of cervical spondylosis are enlisted below[7]

- Neck pain which is aggravated by movement
- Referred pain to occiput, upper limbs or between the shoulder blades
- Reversible or irreversible cervical stiffness
- Weakness, tingling or numbness in upper limbs
- Dizziness or vertigo
- Retro- orbital and temporal pain

Cervical disorders which can cause dysphagia include vertebral degeneration, deformities, inflammatory diseases and injuries [8]. The mechanism of dysphagia in such cases can be either mechanical obstruction or neuromuscular motility dysfunction or both. A large osteophyte is likely to interfere with swallowing at the pharyngoesophageal junction [9]. Odynophagia and foreign body sensation in throat can be seen due to anterior cervical osteophytes[10].

Dizziness (cervical vertigo) is seen in association with chronic neck pain that occurs in cervical spondylosis [11]. There is a prolonged reduction in vestibular response to head movements (Vestibulo-ocular reflex) which

in absence of vestibular loss results in dizziness and imbalance[12].

For initial imaging of neck pain, plain radiographs can prove adequate. However, degenerative changes seen on imaging and presence of neck pain have often shown a poor correlation[13]. Neck pain and low back pain are the leading cause of years lived with disability (YLD) and the fourth leading cause of disability adjusted life years according to Global Burden of Disease 2015 [14][15][16]. Timely diagnosis and intervention can prevent long term complications from cervical spondylosis.

Material and methods

All patients presenting in ENT OPD of SSJGIMSR Almora with complaints of earache, throat related complaints (throat pain, difficulty in swallowing, foreign body sensation in throat) and dizziness in whom no apparent ear, nose or throat related disease could be detected on clinical examination were evaluated by cervical spine X- Ray. Patients with features of cervical spondylosis were included in the study from September 2020 to February 2022 in the age group of 18–70 years. On taking occupational history, the patients were divided into two groups of overhead weight carriers and non overhead weight carriers which is a common practice in Kumaon region of Uttarakhand.

Cervical spine was evaluated on lateral radiograph by measuring disc space and vertebral height from C2-C3 level to C7-T1 level and Gore et al scoring system to evaluate the degeneration of these levels.

Gore et al classification for cervical spondylosis
Grade 0 : no disc space narrowing

Grade 1 : 25% decrease in disc space with barely visible end-plate sclerosis and osteophyte formation.

Grade 2 : 50% decrease in disc space with moderate size osteophyte formation.

Grade 3 : 75% disc space narrowing, severe end-plate sclerosis and large osteophyte formation.

Observations and results

Gender distribution

50 cases were studied out of which 2 were males as shown in figure 1.

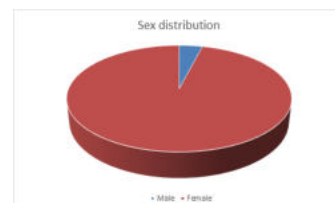


Figure 1: Pie chart showing gender distribution

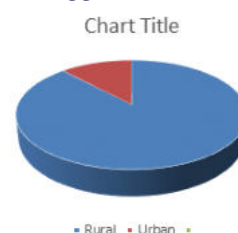


Figure 2: Pie chart showing distribution of rural and urban population

Out of 50 cases studied 44 cases(88%) were rural and 6 cases(12%) were of urban dwelling as shown in figure 2.

Out of 50 cases studied 44 cases(88%) had history of carrying weight overhead as shown in figure 3.

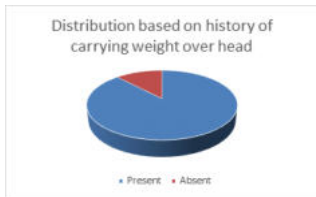


Figure 3: Pie chart showing distribution of overhead weight carriers and non overhead weight carriers.

Age distribution

Highest number of cases were seen in the age group of 30- 50 years(26 cases) comprising 52% of the total cases. A distribution of cases according to age group is shown in figure 4.

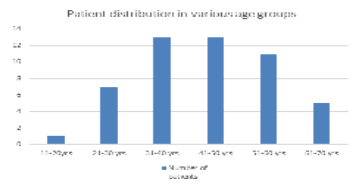


Figure 4: Bar chart showing distribution of patients in various age groups

In our study, 20 cases (40%) had history of pain radiating towards ipsilateral ear and 15 cases (30%) had history of dizziness. A distribution of various attributes used in the study in accordance with age group is shown in table below.

Age group	Rural population	Patients with history of overhead weight carrying	Patients with history of pain radiating towards ear	Patients with history of dizziness	Patients with history of throat related complaints
11-20 years	1	1	1	—	
21-30 years	6	6	3	4	1
31-40 years	11	11	6	3	2
41-50 years	12	12	5	5	3
51-60 years	9	9	4	3	1
61-70 years	5	5	1	—	—
Total	44(88%)	44(88%)	20(40%)	15(30%)	7(14%)



Image1 showing decreased disc space at C5-C6 level

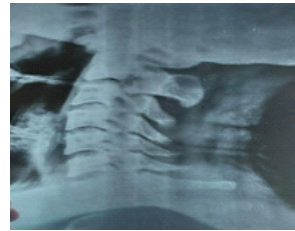


Image 2 showing decreased disc space with osteophyte formation



Image 3 showing straightening of cervical spine with decreased disc space

Discussion

Cervical spondylosis present in ENT OPD mostly with complaints of earache and pain in neck and throat. It was seen in various studies that most people with spondylotic changes of the cervical spine on radiographic imaging remain asymptomatic. Amongst symptomatic individuals the degenerative changes are shown by 25% of individuals under the age of 40 years, 50% of individuals over the age of 40 years, and 85% of individuals over the age of 60 years. Neck pain is the most common presentation of symptomatic cervical spondylosis. The point prevalence of neck pain was seen to range from 0.4% to 41.5% in general population. The 1-year incidence was seen to range from 4.8% to 79.5%, and lifetime prevalence may reach as high as 86.8% in general population. C6-C7, followed by C5-C6 are the most frequently amongst the cervical vertebrae [1]. In our study most females develop cervical spondylosis under the age of 50 years showing impact of overhead weight carrying on early onset of cervical spondylosis.

There is a higher incidence of neck pain among women and an increased risk of developing neck pain until the 35-49 years age group. The risk begins to decline after this as indicated by most studies [14]. The incidence of chronic neck pain is also seen more in women as compared to men. In our study, the cases comprises mainly of female patients as women are required to carry fuel and fodder for livelihood in the hilly region of Kumaon.

In a study by Hawala et al [5], it was seen that the height of disc space of cervical vertebrae was significantly less in patients with history of head weight carrying than those without the history of head weight carrying (classification by Gore et al used). In our study, majority of the patients with history of overhead weight carrying (88% of cases) have signs of cervical spondylosis on cervical radiography.

It is seen some studies [10, 17, 18] that though anterior cervical osteophytes are mostly symptomatic, in some cases these may cause dysphagia and odynophagia which was also seen in our study. Dizziness and imbalance can occur in cases of cervical spondylosis due to increase in number of mechanoreceptors in cervical discs and disturbance in the VOR in patients with cervical spondylosis [11,12]. About 30% of cases had complaint of dizziness in our study.

Conclusion

Cervical spondylosis can present in ENT clinics as ear or throat related complaints. Dizziness is also commonly seen in patients with cervical spondylosis. Females in the hilly region of Kumaon practicing overhead weight carrying in their day to day activities are prone to develop cervical spondylosis. The practice of carrying overhead weight increases the chances of developing cervical spondylosis at an early age. This results in an increased incidence of cervical spondylosis in young females.

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