CERVICAL SPONDYLOSIS IN BLUE COLLAR AND OFFICE WORKERS: A COMPARISON OF HEAVY MANUAL AND SEDENTARY WORKERS

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SUMMARY

The occurrence of cervical spondylosis in a group of blue collar workers was compared with the occurrence of this condition in a group of office workers. The study showed a prevalence rate of 34% in the blue collar workers, significantly higher than the office workers. It is concluded that cervical spondylosis is not exclusively an ageing phenomenon, but heavy manual labour as an occupation plays an aetiological role.

Key Words: Cervical Spondylosis, Blue Collar Workers, Office Workers.

INTRODUCTION

In recent years, evidence of an increasing problem with job-related shoulder and neck disorders have been reported from Japan and Scandinavia.[1,2,3] A review of occupational cervicobrachial syndromes was published by Waris in 1979, dealing particularly with definition, aetiology and pathogenesis.[4] Cervical spondylosis, the major neck disorder, is the term used to denote progressive degenerative changes in the cervical spine as a whole.

Clinical manifestation of cervical spondylosis may arise when morphological sequelae are superimposed on a developmentally narrow spinal canal. The two clinical syndromes of spondylotic radiculopathy and myelopathy are distinct, yet they may overlap.[5] The aim of the present investigation is to evaluate the prevalence of cervical spondylosis in different occupational groups - blue collar and office workers.

PATIENTS AND METHODS

A total of 343 employees of petroleum, tobacco, ce-

ment and construction industries were used in the study as part of their routine medical check up. All cases with a previous history of neck injuries were excluded.

A questionnaire was designed to focus on age, sex, history of neck pains, type of occupation, either manual or clerical, and the number of years on the job. The questionnaire was administered by the authors. Statistical evaluation was carried out using Chi Square. Prevalence rates defined as the number of cases in the group per 100 were calculated. The diagnosis of cervical spondylosis was based on plain radiographs of the cervical spine with degenerative changes in the intervertebral discs, osteophytosis of the vertebral bodies and hypertrophy of the facets and laminal arches. Radiographs were obtained in anteroposterior, lateral with or without oblique views. No myelograms, CT or MRI were used in the study.

For the purpose of this study, the term "blue collar workers" includes machine operators, packers in industries, assembly line workers, construction workers and labourers. The term "office workers" includes the following: clerks, typists, draughtsmen, accountants, data entry operators, managers and executives.

RESULTS

A total of 343 men were studied. 197 (52.2%) were blue collar workers and 164 (47.8%) were office workers. 82 (45.8%) of the blue collar workers had neck and shoulder pains, while 45 (27.4%) of office workers gave history of neck and shoulder pains. The mean age of blue collar workers was 38.6 years and that of office workers was 46 years. The average number of job years for blue collar workers was 10.6 years and for office workers was 20.4 years as shown in Table I.

The occurrence of cervical spondylosis in blue collar and office workers is shown in Table II. Sixty-one (34.1%) blue collar workers had cervical spondylosis as compared to 18 (11%) of office workers. While 127 (37%) from both groups had neck pains, only 79 (23%) of both groups showed radiographic signs of cervical spondylosis. Statistical analysis indicates that there is significant association between blue collar workers and cervical spondylosis as compared to office workers. ($\chi^2 = 24.48$, df = 1, $P < 0.0001$).

Table I

	Blue Collar Workers	Office Workers
No. of Cases in the Study	179	164
History of neck/shoulder pains	82	45
Mean Age in years	38.6	46
No. of Job years (Mean)	10.6	20.4
Calculated Prevalence rate of Cervical Spondylosis	34%	11%

Table II

Disease	Occupation		
Cervical Spondylosis	Blue Collar Workers	Office Workers	Total
Yes	61	18	79
No	118	146	264
Total	179	164	343

DISCUSSION

Hebert *et al*[6] indicated a high prevalence rate of neck and shoulder pains of 30%-40% in industries, while our study showed prevalence of 45% in blue collar workers. The cause of the neck and shoulder pains is multifactorial. The blue collar workers had prevalence of cervical spondylosis of 34% in our study. This may be due to a combination of strained postures and repetitive movements involving the shoulder girdle and the neck. The prevalence of 11% cervical spondylosis in office workers may also be explained mostly by poor and strained postures. Intra-grouping analysis of materials handled or used, head movements in the process of work and postures adopted at work might have been useful and would have made comparison between the study easier. However, this was not done in this study.

We also found out that blue collar workers were younger with mean age of 38.6 years compared to 46 years of office workers. They also had less average number of job years (10.6 years) as compared to 20.4 years of office workers. Yet the blue collar workers had a higher prevalence rate of cervical spondylosis probably due to the nature of their work.

It is well known that patients with all the radiographic stigmata of cervical spondylosis may be completely symptom free. However, others may show symptoms of cervical myelopathy in the presence of minimal or no plain radiographic findings.[7,8,9] This was reflected in our study where 127 (37%) men complained of neck pains but only 79 (23%) had plain film signs of cervical spondylosis. This discrepancy is explained to a large degree by differences in the initial size of the cervical canal.[8,9] The precise localisation of the pathological disc level is not possible with plain radiographs without myelography, CT or MRI.

In conclusion, we have shown that there is an occupational risk for the development of cervical spondylosis even in young blue collar workers who have been active in their occupation for a comparatively short time.

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