

CERVICAL RIB: IT'S PREVALENCE IN INDIAN POPULATION AROUND LUCKNOW (UP)

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ABSTRACT

Objective: The study was conducted to know the prevalence of cervical rib in Indian population especially in and around Lucknow and to compare the results with the other study reported in London population.

Material and Method: The study was conducted on chest X-rays of 12950 cases done for various complaints of both male and female patients, irrespective of age and ethnicity who attended the Radiology Department of Era's Lucknow Medical College, Lucknow during a period of 7 months, that is from 01-09-2011 to 31-03-2012.

Results: An incidence of 0.6% was observed with bilateral cervical rib being more common in both males and females and the incidence of cervical rib in females was 0.73% as compared to 0.49% in males.

Conclusion: Indian population showed an overall incidence of 0.6% as compared to the London population showing an overall incidence of 0.74%. Bilateral cervical rib is more common in both male and females and left sided cervical rib being more common in males in comparison to right sided cervical rib in females.

Key-words: Cervical rib, unilateral or bilateral and its prevalence.

INTRODUCTION:

Flemish Anatomist Vesalius in his work of Anatomy "De humani corporis fabrica" in year 1543 set a wave of controversy when he found equal number of ribs in males and females, as it was traditionally assumed from Biblical story of "Adam and Eve" that men's rib would number one less than women. About 0.5% - 0.7% of population have an additional cervical rib¹ It is more common in females than males in a ratio of 2:1⁴ Cervical rib is a supernumerary rib which arises from the seventh cervical vertebra. It is congenital abnormality located above the normal first rib. It is usually attached to the first rib, close to the insertion of scalenus anterior. It may consist of a complete rib, but often the bone is present only for a variable distance, the anterior part being made of a fibrous band. Cervical rib, is usually unilateral and some what more frequent on the right side.⁵

PURPOSE OF STUDY

A study was made to know the prevalence of cervical rib in the Indian population especially in and around Lucknow and to compare the results with the study in London population². The texts have mentioned a prevalence rate of less than 0.5% in the general

population⁵. In another study³ it has mentioned the rate to be 1:500 population or 0.2%. A study was undertaken to compare the prevalence of cervical rib in the Indian population.

MATERIAL AND METHOD:

Chest X-rays of patients done for various complaints in the Radiology Department of Era's Lucknow Medical College were included in the study. These X-rays were performed during a period of 7 months i.e. from 01-09-2011 to 31-03-2012. All chest X-rays were examined for any cervical rib, unilateral or bilateral. Both male and female chest X-rays were included in the study irrespective of age and ethnicity.

A total of 12,950 chest X-rays were examined for cervical rib. The study included Females- 5,678 and Males- 7,272.

All chest X-rays were examined for cervical rib, unilateral or bilateral.

OBSERVATION:

Out of a total cases of chest X-rays numbering 12,950 males were 7,272 and Females 5,678

Total cases studied	- 12,950
Males	- 7,272
Females	- 5,678
Number of cervical rib cases	- 78
Overall prevalence rate	- 0.6%
Bilateral cervical rib	- 31 cases -39.7%
Right side	- 25 cases -32%
Left side	- 22 cases -28.2%

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Number of Male cases	- 7272
Cervical rib seen	- 36
Prevalence rate	- 0.49%
Bilateral cervical rib	- 14cases incidence 0.192%
Right side	- 8cases incidence 0.1%
Left side	- 14cases incidence 0.192%
Number of female cases	- 5678
Cervical rib seen in	- 42
Prevalence rate	- 0.73%
Bilateral cervical rib	- 17cases incidence 0.29%
Right Side	- 17cases incidence 0.29%
Left side	- 8cases incidence 0.14%

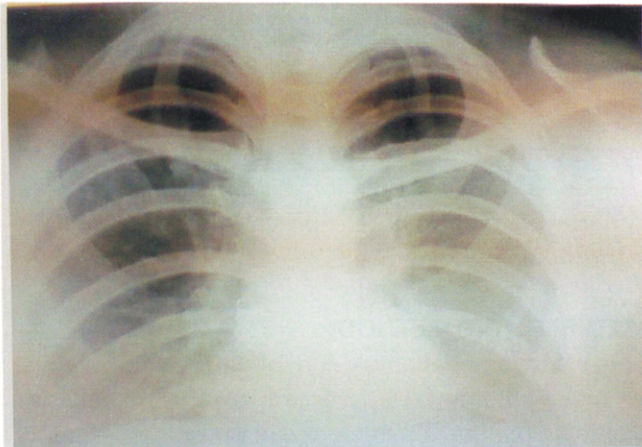
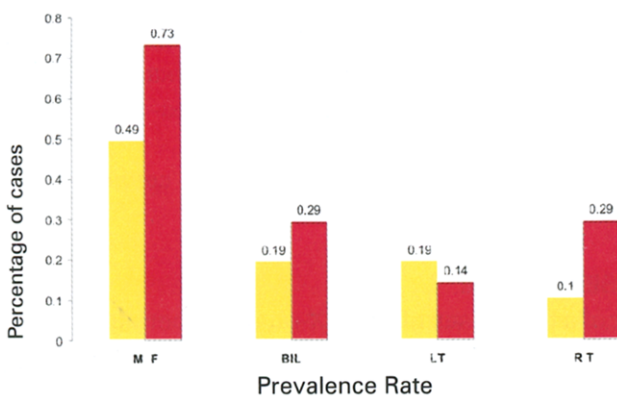


Figure - 1



(Fig. 2): M-Male, F-Female, Bil-Bilateral, LT-Left, RT-Right.

DISCUSSION:

In our study 12,950 cases were examined for cervical rib and it was found in 78 cases that is an overall incidence of 0.6% as compared to the London study conducted on 1,352 cases and they reported an incidence of 0.74%.

Out of 78 cases of cervical rib, bilateral cervical rib was seen in 31 cases (39.7%), right side cervical rib in 25 cases (32%) and left side cervical rib in 22 cases (28.2%), i.e. that one third of cervical rib cases are bilateral.

Among the male (7,272 cases) an incidence of 0.49% was observed. Bilateral cervical rib was as common as on left side (0.192%cases), while right side cervical rib was seen in only 0.1%cases

Among the female (5,678cases) an incidence of 0.73% was observed. Bilateral cervical rib was as common as on right side (0.29%), while on left side cervical rib was seen in only 0.14% cases. (Photo 1) Bilateral cervical rib was more common in both male and female cases, while cervical rib was more common on right side in females and left side in males.

The overall incidence was more in females (0.73%) than in males (0.49%). The incidence of cervical rib in females is more than what is seen in males. (Fig.2)

CONCLUSION:

In Indian population the overall incidence was found to be 0.6% as compared to 0.74% incidence in London population. In males the incidence was 0.49% as compared to 0.42% in males of London population.

In females of Indian origin the cervical rib was seen in 0.73% cases as compared to 1.09% in females of London population.

In both studies the cervical rib was found to be more common in females than males. The texts have mentioned that cervical rib is more frequent on right side⁵ but in our study bilateral cervical rib was more frequently seen in 31 cases or an overall incidence of 0.23%.

Out of 78 cases of cervical rib, 31 cases were bilateral or 39% of cervical rib cases were bilateral. Cornell et.al⁴ have also reported that bilateral cervical rib is present in about two third cases. In our study about in one third cases cervical rib was bilateral.

In females right side cervical rib was more common (0.29%) as compared to left side cervical rib in males (0.19%). Schein at al. have also reported

cervical rib to be more common in females than males in a ratio of 2:1.

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