Case Report

OSSIFICATION OF THE ANTERIOR LONGITUDINAL LIGAMENT OF THE THORACIC SPINE

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ABSTRACT

The ossification of the anterior longitudinal ligament may be a part of diffuse idiopathic skeletal hyperostosis (DISH), also known as Forestier’s disease. We are describing a case of ossification of the anterior longitudinal ligament in the region of thoracic spine, found on routine examination of dry bones.

KEY WORDS: DISH, Forestier’s Disease, Diffuse, Idiopathic, Skeletal, Hyperostosis, Thoracic spine.

INTRODUCTION

The anterior longitudinal ligament is one of the important ligaments in the spinal column that provides stability to the spine. The anterior longitudinal ligament runs along the front of each vertebral body and disc extending from the base of skull to the sacral promontory. Forestier’s disease, also known as diffuse idiopathic skeletal hyperostosis (DISH), is an idiopathic abnormality in which exuberant ossification occurs along ligaments throughout the body, but most notably the anterior longitudinal ligament of the spine. It usually affects males over 60 years of age. The disease is usually asymptomatic; however, dyspnea, dysphagia, spinal cord compression, and peripheral nerve entrapment have all been documented in association with the disorder.

CASE REPORT

During the routine examination of dry and processed bones in the department of Anatomy, we observed that the bodies of upper twelve thoracic vertebrae were fused due to ossification of anterior longitudinal ligament on the right side. On the left side the ossification involved T2-T3, T8-T9 and T9 to T11. The vertebral column belonged to an elderly male. The intervertebral disc space was preserved. Zygoapophyseal joints were not involved. The intervertebral foraminae and vertebral canal appeared normal. The posterior longitudinal ligament and the ligament flavum appeared to be normal.

DISCUSSION

Resnick et al [2] and Resnick, Shaul and Robins[3] coined the term diffuse idiopathic skeletal hyperostosis for Forestier’s disease and ossification of the spinal ligaments has been considered as a part of this entity [4]. They
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defined diffuse idiopathic skeletal hyperostosis as showing calcification or ossification along the anterior to anterolateral aspect of four contiguous vertebral bodies with relative preservation of the height of the intervertebral disc in the affected areas [5], distinguishing it from degenerative discogenic disease. The prevalence rates of DISH ranges from 2.9% in Koreans to 27.3% in Caucasian men in a European population [6-10]. The disease is observed mostly in the elderly with a higher incidence in males. However, due to paucity of literature, its incidence in Indian population is not clear.

DISH may affect all the parts of spine i.e cervical, thoracic, lumbar and may also involve peripheral joints. The portion of the spine that is classically involved in DISH is the thoracic spine. Resnick and Niwayama found that thoracic abnormalities were more common in the 7th to 10th thoracic vertebra, a lower incidence in the upper thoracic vertebrae [11]. In the present case we found the ossification of the anterior longitudinal ligament from T1 to T12 on the right side and usually the left side is spared but we found the ossification in some parts on the left side as well.

DISH needs to be distinguished from ankylosing spondylitis. Diffuse idiopathic skeletal hyperostosis (DISH) and ankylosing spondylitis (AS) are the two most common diseases that are characterized by ossification of the ligaments in both the axial skeleton and peripheral sites. Both diseases produce bone proliferations in the later phases of their course and in advanced stages cause the same limitations of spinal mobility and postural abnormalities. However, the radiologic spinal findings for both the conditions are very different and the changes in each of them can be easily identified.

CONCLUSION

The present case highlights the ossification of anterior longitudinal ligament in the region of thoracic spine as a part of diffuse idiopathic skeletal hyperostosis (DISH), the knowledge of which will be important to the clinicians in correct diagnosis and treatment of patients suffering from this clinical entity. Further we suggest to study the incidence of diffuse idiopathic skeletal hyperostosis (DISH), in the Indian population.

Conflicts of Interests: None

REFERENCES


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