

*Case Report***Dysphagia Due to Anterior Cervical Spine Osteophyte: A Case Report**

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Abstract**Introduction:**

Degenerative changes of the cervical spine are more common in elderly, but anterior cervical osteophytes that cause problems in swallowing are rare. The most common cause of this problem is DISH disease (diffuse idiopathic skeletal hyperostosis). Trauma is also suggested as a potential cause in osteophyte formation.

Case Report:

We report a rare case of anterior cervical osteophyte with problems in swallowing that was caused by cervical spine trauma in a car accident 4 years ago, treated with a cervical collar. Dysphagia was the initial symptom of the disease. Barium swallowing showed a large cervical osteophyte at the C3-C4 level with compression effect on the esophagus. X-ray, CT scan and MRI of the cervical spine confirmed the osteophyte and its correlation with the esophagus. Endoscopic study of esophagus and stomach also ruled out other disorders. Surgical osteophyctomy was performed.

Conclusion:

Up to now, only two cases of post-traumatic anterior cervical osteophyte have been cited in the literature. In this report, we introduce an unusual case of dysphagia caused by cervical spine trauma.

Keywords:

Cervical spine, Dysphagia, Osteophyte, Trauma

Received date: 10 Jan 2010

Accepted date: 18 May 2010

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Introduction

Degenerative changes of the cervical spine usually cause radicular or myelopathy signs with formation of posterior osteophytes. If an osteophyte is formed in the anterior portion of the vertebra, it can cause swallowing difficulties resulting from extra pressure on the esophagus or the larynx; it mostly manifests with dysphagia. Dysphagia due to cervical osteophytes is a known symptom from many years ago. Zahn in 1904 described dysphagia for the first time. Then, two cases of spondylotic dysphagia were reported in 1926. Iglauer resected an osteophyte through a surgical method for the first time. A type of hyperostosis of the cervical spine with the term of senile ankylosing hyperostosis was described in 1950; eventually, it was named diffuse idiopathic skeletal hyperostosis (DISH, Forestier's disease) (1-5).

Case Report

A 52 years old male driver with one-year history of progressive dysphagia visited our clinic. He hadn't been able to eat solid food for 3 months; therefore he was referred to the hospital. He was healthy in general examination. The patient had an impact mild neck deformity due to an accident 4 years ago that was treated with cervical collar. He had 7 kg loss of weight during this period. Barium swallow of the patient showed large cervical osteophyte in C3-C4 level that had put pressure on larynx (Fig 1).



Fig 1: Shows the stop of barium column in upper level of osteophyte (with arrow)

CT scan and MRI confirmed the anterior cervical osteophyte (Fig 2, 3). Esophageal and gastric endoscopies were normal. Osteophyte was removed by surgery with transverse incision on right side of the neck. The patient used the fluids one day after surgery and was discharged from the hospital starting solid food diet 3 days after operation. Postoperative radiography showed complete resection of osteophyte (Fig 4). On one year follow-up after the operation follow-up showed no problem with swallowing.

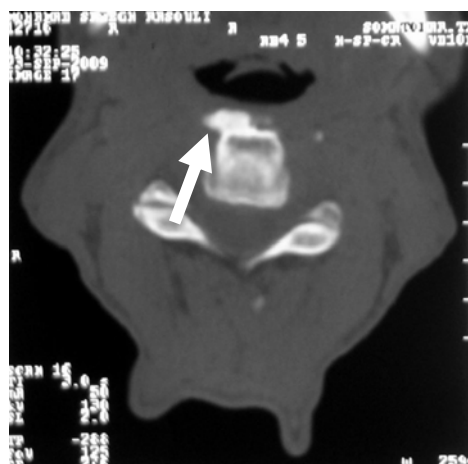


Fig 2: CT scan shows the osteophyte status with pressure effect on esophagus (white arrow)



Fig 3: MRI shows the anterior osteophyte on C3-C4 level

Discussion

DISH is the most common cause of dysphagia due to anterior cervical osteophytes. The prevalence of this disease is

5-15% in the elderly (above 60), that 17-28% of them have this disease along with dysphagia. However, the cause of this following is not known (4-6).



Fig4: Cervical x ray after excision of osteophyte

The other causes of skeletal dysphagia that are presented as case reports are congenital anomalies, vertebral tumors, anterior disc hernia; postoperative degenerative changes and trauma (1-4). Trauma on cervical spine is suggested as a potential mechanism of formation the osteophytes. Kissel reported a 43-year-old man with a one year history of progressive difficulty in swallowing; that he had a cervical spine injury in a bus accident two years prior to the onset of symptoms (3). McGarrah presented a 68-year -old man who had a 2-year history of progressive dysphagia due to a cervical spine injury sustained 40 years earlier resulting from a jump (7).

Anterior cervical osteophytes can cause dysphagia in several ways. A large osteophytes obstructs or deviates esophagus and larynx. Smaller osteophytes in regions of larynx that have anatomic limitation movement (coricoid cartilage and diaphragm zone) can also cause problem in swallow. Inflammation of soft tissue continuous movement of esophagus in contact with osteophytes is another mechanism (4,5).

Neuromuscular disorders of esophagus, tumors of esophagus, larynx and lung,

mediastinum, gastroesophageal reflux Zenker diverticulum's Plummer-Vinson's syndrome should be considered for differential diagnosis of the patients with problems in swallow. Since anterior cervical osteophyte is a rare cause of dysphagia, neck radiography should be performed to assess it. If there is osteophyte, barium swallowing or video fluoroscopic study of the esophagus rules out other disorders. CT scan of the cervical spine and MRI not only show the position of osteophyte, but also show the relation between esophagus and cervical spine and expansion of lesion (1-5). Dysphagia originating from an anterior cervical osteophyte especially with mild symptoms is treated medically and administration of nonsteroidal anti inflammatory drugs muscular relaxants steroid therapy and anti reflux drugs are suggested in addition to modifying the patient's diet. Surgical osteophyctomy is recommended if dysphagia is severe or if the patient does not improve with medical treatment. The surgical technique is extra esophageal and performed in an anterolateral approach of the neck. Postoperative cervical radiography confirm its resection (4,5,8). Surgical osteophyctomy is the most effective method in these patients. It is reported that among 30 patients with an osteophyte whom underwent surgery, 28 cases improved promptly after surgery and 2 cases showed a delayed improvement. Oppenlander performed surgery on 9 patients with osteophyte where all cases improved after the operation. McCafferty reported that the cause of delayed improvement is persistent inflammation or fibrosis of the esophagus. Surgical complications including temporary paralysis of the recurrent laryngeal nerve, esophageal fistula, hematoma and infection rarely occur (5-9).

Conclusion

Degenerative changes of cervical vertebra can cause dysphagia with formation of osteophytes. Cervical osteophyte is a rare cause of dysphagia and trauma is the potential mechanism in osteophyte

formation, cervical spine radiography should be performed for diagnosis of dysphagia. Conservative therapeutic methods or resection by surgery are recommended in cases which the presence of an osteophyte is confirmed.

Acknowledgment

The authors wish to thank the gastroenterologist, Dr. Moradi Moghadam for her invaluable assistance in performing upper gastrointestinal endoscopy.

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