Dysphagia Caused by Hypertrophic Changes in the Cervical Spine: *

Report of Two Cases

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HYPERTROPHIC CHANGES of the cervical spine occur frequently in people 50 years of age or older. These changes may cause some degree of discomfort or mild pain with change in position of the head and neck. It is unusual, however, for them to become large enough to produce severe pain or difficulty in swallowing by pressure on surrounding nerve structures, the hypopharynx, or the cervical esophagus; but this did happen in two cases we wish to report.

It has been stated [1, 3] that degeneration of cervical intervertebral disks is the primary cause of such trouble. When this occurs, the normal cushioning effect of the disk is lost and osteophytes may form. They may appear [1] in the region of the neurocentral joints or on the anterior aspects of the vertebral bodies. If these hypertrophic bony spurs become large enough, they may produce pain on swallowing.[2] At times pressure on the superior sympathetic nerve chain may produce severe pain precipitated by certain movements of the neck, and this pain may extend down the neck and arm.

The large bony spurs are of importance to the esophagoscopist, for they increase the risk of esophagoscopic examination. If the esophageal wall is compressed between the spur and the esophagoscope, it may be perforated.

Patients who have large hypertrophic spurs of the cervical spine and who have severe pain on swallowing may obtain relief by the removal of these abnormal lesions. For illustration the following two cases are presented.

Case Reports

Case 1. In January 1957, a man 52 years of age was seen at the Mayo Clinic. He complained of dysphagia of 9 months' duration. Periodically, food had stuck in his throat, and this difficulty had been more pronounced when his head was extended. He complained also of stiffness of the cervical spine. Crepitation had been noted on movement, and frequently a burning pain in the neck had accompanied the dysphagia and motion of the neck. The patient had experienced a football injury in 1924.

Physical examination revealed stiffness of the neck and crepitation on movement, which was somewhat limited. Findings from intra-oral examination were entirely normal.

Roentgenograms of the cervical spine showed hypertrophic changes with an osseous spur between the fourth and fifth cervical vertebrae (Fig. 1). A roentgenogram of the esophagus was reported to show "extrinsic pressure on the esophagus in its posterior aspect just below the esophageal introitus probably due to osteophyte." On esophagoscopy no tumor was visualized. Removal of the bony spur was recommended for relief of dysphagia and pain.

The operation was performed on January 9. A right transverse midcervical incision was made, and the dissection was carried out downward lateral to the strap muscles and medial to the contents of the carotid sheath. The hypopharynx and larynx were elevated to the left and upward, making possible good exposure of the spur, which was situated on the anterior surface of the bodies of the fourth and fifth cervical vertebrae and measured 2.5 by 1.5 by 1 cm. It was excised by

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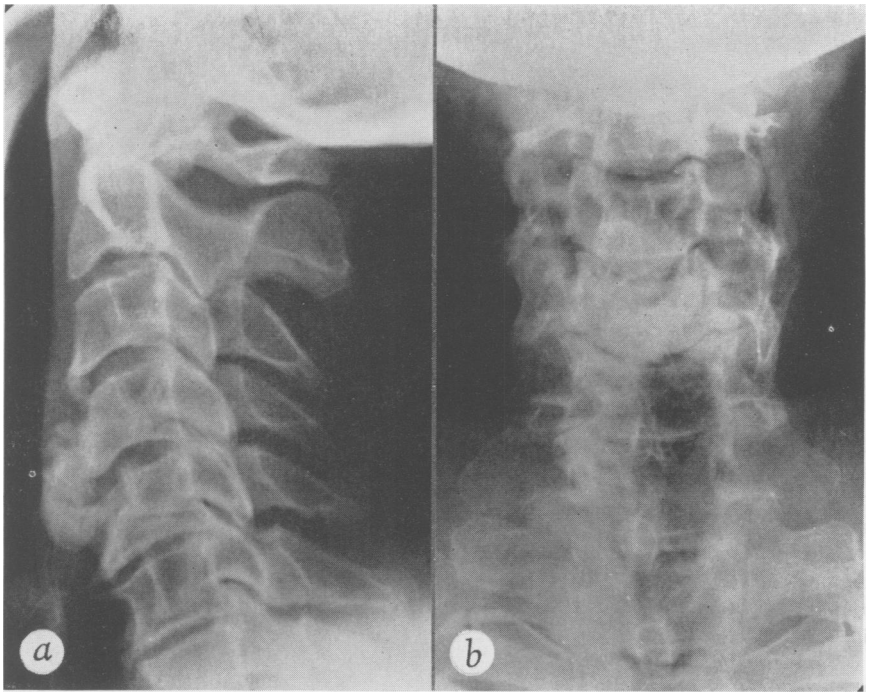

FIG. 1a, b. Hypertrophic changes of the cervical spine with osseous spur between fourth and fifth vertebrae.

rongeurs; 2 Gm. of tissue was obtained. Postoperatively the patient's course was uneventful except for the development of a small hematoma in the wound; this was evacuated. The patient experienced complete relief of dysphagia and the associated pain, and he was dismissed from our care on January 21, 1957. Four months later he was asymptomatic; 1 year later he was free of the

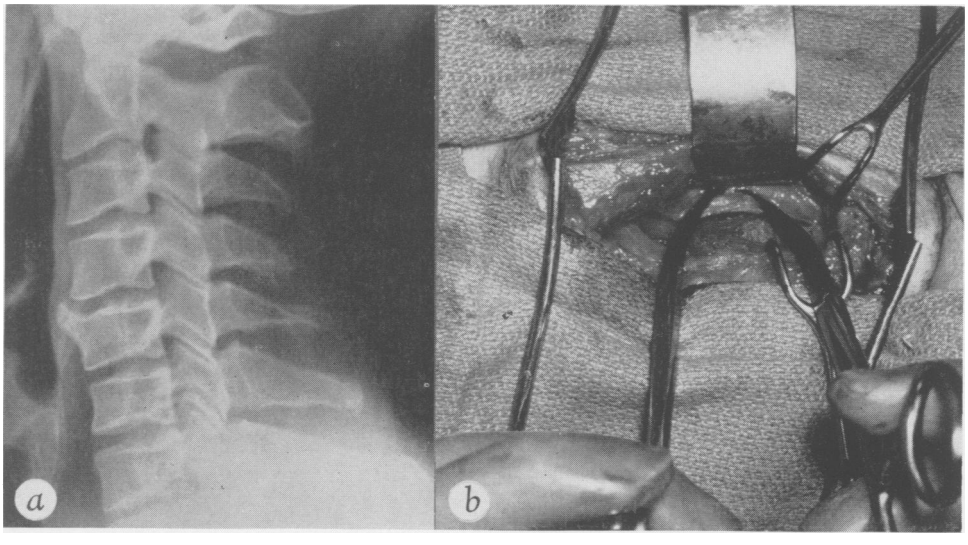

FIG. 2a. Rather marked anterior lipping of the superior surface of the fifth cervical vertebra. b. Interruption of the sympathetic chain for a distance of 1 cm. at the level of the seventh cervical vertebra.

previous complaints but had symptoms suggestive of osteoarthritis of the cervical spine.

Case 2. A man 46 years of age registered at the clinic on September 19, 1956. He complained of pain of 3 months' duration in the neck, right shoulder, and arm, as well as of difficulty in swallowing for the same period. Speaking, yawning, sneezing, and swallowing would initiate a pain like an electric shock in the right side of the neck and right arm. The patient had discovered that he could swallow comfortably by turning his head to the left. He did not complain of numbness about the neck or upper extremities but did state that he had had migraine headaches for 15 years.

Findings of the physical examination of the neck were normal, as were those of the orthopedic examination. The neurologic examination revealed nothing significant, but from the history it was suspected that the pain possibly was controlled by the sympathetic nerves. A cervical myelogram showed nothing unusual. Roentgenograms of the cervical spine in the lateral position, however, revealed a rather marked anterior hypertrophic lipping of the superior surface of the fifth cervical vertebra (Fig. 2a), and the roentgenologist added "this could be responsible for some degree of dysphagia." Roentgenograms of the esophagus appeared normal.

In the hope of localizing the pain, diagnostic cervical nerve blocks were carried out in stages to make them more reliable. Blocks of the superior laryngeal nerve and the fourth, fifth, and sixth cranial nerves produced negative results. A block of the stellate ganglion, however, produced complete relief of pain. On the basis of this result, transection of the cervical sympathetic chain and excision of the hypertrophic lipping on the fifth cervical vertebra were recommended.

Surgical exploration was made on October 2. Dissection was carried out medial to the contents of the carotid sheath in the midportion of the neck. The anterior belly of the omohyoid muscle was transected. The larynx and hypopharynx were drawn upward and retracted to the left. The bony process on the fifth vertebra was identified slightly to the left of the sympathetic chain. Because of the anatomic relationship of these two structures, it was thought possible that the bony process could be a source of irritation to the sympathetic chain on various types of movement in this part of the neck, and thus be responsible for the pain. The lipping was excised from the fifth vertebra and the sympathetic chain was interrupted for a distance of 1 cm. at the level of the seventh vertebra (Fig. 2b). Horner's syndrome was produced on the right, but convalescence was uneventful and the patient experienced complete relief of all symptoms.

He was seen again on August 21, 1957, at which time he had no difficulty in swallowing and no pain. The right eyelid was lower than the left. The patient did not sweat on the right side of the face and he was having some difficulty breathing through the right side of the nose. These symptoms and findings were results of the transection of the cervical sympathetic chain.

Comment

A word of caution should be introduced. Slight to moderate hypertrophic changes of the cervical spine are not uncommon after the age of 50, as noted before; and transient dysphagia and transient sensations of discomfort in the throat should not be attributed to these lesions. It is possible for persons with such changes to develop functional symptoms in these regions when under nervous tension. Also, when dysphagia is persistent, there is necessity to exclude the possibility of an organic lesion in the hypopharynx or cervical esophagus. This should be done by roentgenologic studies and esophagoscopy.

When pain is a major factor in the situation it is wise to have a neurologist evaluate the problem. Diagnostic nerve blocks are of great help in determining the pathways over which these pains travel.

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