Atypical presentation of droopy shoulder syndrome in male patients

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ABSTRACT

Introduction: Droopy Shoulder Syndrome (DSS) is characterized by pain or paresthesias in the neck, shoulder, and upper extremities. This is thought to be secondary to stretch on the brachial plexus from low set shoulders. All reports in the current literature are described exclusively in women. Case Series: We report two cases of DSS in male patients with a chief complaint of “numbness in the arms” and “difficulty in fully expanding the chest during deep breathing”. Conclusion: This is the first report of DSS in male patients. A careful examination of the neck for sloped shoulders and a lateral cervical radiograph may prevent unnecessary testing and treatments.

Keywords: Arm numbness, Breathing difficulty, Droopy shoulder syndrome, Pain in shoulder and neck

INTRODUCTION

Droopy shoulder syndrome (DSS) has been described exclusively in mildly depressed women. The most common presenting complaint is pain in the shoulder but also involving neck, head, chest and arm with occasional radiation to the hands. These patients may be erroneously diagnosed as thoracic outlet syndrome. The description of DSS in all the major series is restricted to women [1–3]. One male patient with DSS secondary to spinal accessory neuropathy has been described [4]. The diagnosis of DSS is based on lateral cervical spine radiographs as well as by exclusion of other etiologies. We report two male patients with primary DSS with atypical presenting symptoms.

CASE SERIES

Case 1

A 35-year-old right handed male presented with a sensation of tiredness, numbness, and pain in bilateral upper extremities of 7 to 8 years duration. Symptoms were provoked by forward elevation of the arms at approximately 60° for a period of 15 to 20 minutes. Positioning of his neck to look up caused intermittent posterior neck pain along with numbness and tingling
over the 4th and 5th digits bilaterally. Detailed musculoskeletal and neurological exam was normal.

Case 2

A 25-year-old right-handed Caucasian gentleman noticed some difficulty in breathing approximately 4 months prior to presentation, described as a feeling of restriction of chest expansion on the right side. He also complained of some pressure and a stretch like sensation from the nape of his neck extending on to the axilla on placing his hand over the back. His other symptoms included shooting pain in the back of his neck radiating on to the arm and shoulder and numbness over his upper arm over the deltoid area as well as medial forearm and hand radiating out to the fourth and fifth digits. He had been previously evaluated by pulmonology with normal Chest CT scan and bronchoscopy. His past medical and surgical history were significant for anxiety.

On examination, there was mild drooping of right shoulder noted with prominence of the trapezius muscle. There were no signs of vascular compromise and detailed neurological examination was normal as well.

Investigations

Nerve conduction study (including F-responses) and electromyography of the upper extremities were normal, without any evidence of brachial plexus involvement in either patient. Chest radiographs did not show a cervical rib. Normally, only 7 cervical vertebrae are seen on lateral films. Lateral cervical spine radiographs in our patients (Figure 1) revealed that body of the T2 vertebra was above the level of the shoulder. Sagittal T2 MRI fast spin-echo images of the cervical spine (Figure 2) corroborated that the second thoracic vertebral body was superior to the manubrium sterni. The second patient had chest fluoroscopy done which showed normal diaphragmatic excursion.

Figure 1: Plain Radiographs, Lateral View of Cervical Spine (case A – A, case B – B). T2: Second thoracic vertebra. Chest radiographs did not show a cervical rib. Normally, only 7 cervical vertebrae are seen on lateral films. Lateral cervical spine radiographs in our patients revealed that body of the T2 vertebra is seen above the level of the shoulder.

Figure 2: Sagittal T2 MRI fast spin-echo images of the cervical spine. Body of the T2 vertebra is seen above the level of the manubrium.

Treatment

The first patient did not receive any treatment. The second patient underwent physical therapy with shoulder girdle strengthening exercises, subsequent to which he had improvement in the pain without any change in the subjective restriction of chest expansion.

DISCUSSION

In DSS, the most common complaint is pain, usually in the shoulder, but may involve the neck, head, chest and arms which may be worsened by lifting of heavy objects [1]. These symptoms are thought to result from stretch on the brachial plexus due to depression of the shoulders without any signs of neurological impairment [1, 2]. There are no symptoms of vascular insufficiency i.e. claudication and nerve conduction studies are normal [1]. Since its initial description in the literature in 1976 [3], there have been 24 patients described with droopy shoulder syndrome, all of whom have been female. All patients have been noted to have long, graceful, swan necks and low-set shoulders which may be asymmetric.

Swift and Nichols proposed several criteria to define the droopy shoulder syndrome including: (1) Pain or paresthesia occurring in shoulder, neck, arm, forearm, or hand. (2) Long, graceful, and swan-like neck; low-set shoulders, and horizontal or downsloping clavicles. (3) Exacerbation of symptoms on palpation of brachial plexus or passive downward traction of the arms. (4) Immediate relief of symptoms by passive shoulder elevation. (5) Absence of vascular phenomena, muscle atrophy, sensory loss, or reflex changes. (6) Normal nerve conduction studies. (7) The second thoracic or lower vertebrae are visible above the shoulders on lateral cervical spine radiographs. (8) The syndrome is virtually limited to women. [1]
One of the eight diagnostic criteria proposed by Swift and Nichols [1] is that DSS is virtually limited to women. Iatrogenic DSS has been described in two patients (one male) undergoing scalene lymph node biopsy with injury to the spinal accessory nerves [4].

Our first patient presented with pain and paresthesias in the arms while holding them up at about 60° to the horizontal and the second patient had feeling of restriction in chest expansion. There was no frank tenderness to palpation over the brachial plexus in either of them. Only one of them had the typical phenotype with long neck and down-sloping shoulder.

The best diagnostic study for DSS is lateral cervical spine radiograph in suspected patients. On lateral radiographs of the cervical spine, it is unusual to be able to visualize vertebral bodies inferior to the sixth or seventh cervical vertebrae [1]. In previously described patients with DSS, and as in our patients, characteristically the body of the second or third thoracic vertebra can be seen as the low set shoulders do not obscure the view [1]. Since MRI of the cervical spine is being increasingly done for evaluation of neck and shoulder pain, the physician has to be aware of the relative position of manubrium sterni to the cervical spine. In patients with DSS, second thoracic vertebra is superior to the manubrium sterni.

Most of the patients respond well to conservative treatment with physical therapy for shoulder muscle strengthening. Surgical treatment is not recommended.

CONCLUSION

To our knowledge, this is the first description of DSS in male patients. Also the presenting symptoms are different from what has been historically described. This entity is most likely under recognized in male patients since they may present with unusual symptoms as in our patients. A careful examination of the neck for sloped shoulders and a lateral cervical radiograph may prevent unnecessary testing and treatments.

REFERENCES

1. Swift TR, Nichols FT. The droopy shoulder syndrome. Neurology 1984 Feb;34(2):212–5.
2. Akalin E, Ginal I, Cakmur R, Senocak O, Peker O, Gulbahar S. The droopy shoulder syndrome. Arch Orthop Trauma Surg 2001 May;121(5):254–6.
3. Clein LJ. The droopy shoulder syndrome. Can Med Assoc J 1976 Feb 21;114(4):343–4.
4. Al-Shekhlee A, Katirji B. Spinal accessory neuropathy, droopy shoulder, and thoracic outlet syndrome. Muscle Nerve 2003 Sep;28(3):383–5.

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Kavita Mohindra Grover – Substantial contributions to conception and design, Acquisition of data, Drafting the article, Revising it critically for important intellectual content, Final approval of the version to be published
Suresh C. Patel – Analysis and interpretation of data, Revising it critically for important intellectual content, Final approval of the version to be published
John Jeffrey Corrigan – Analysis and interpretation of data, Revising it critically for important intellectual content, Final approval of the version to be published
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Conflict of Interest
Authors declare no conflict of interest.

Data Availability
All relevant data are within the paper and its Supporting Information files.

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