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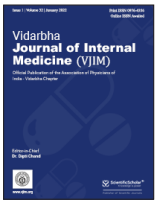

Case Report

Cervical Angina: A Rare Entity

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ABSTRACT

A 39-year-old female was admitted with history of cervical radiculopathy for prolapse intervertebral disc surgery. Pre-surgical check-up was uneventful. There was no history of hypertension, diabetes mellitus or ischemic heart disease in past. Her blood investigations, electrocardiogram (ECG) and echocardiography, all were within normal limits. Post-operative within 2–3 h, she developed severe angina with gross ST-T changes in anterior leads. Immediately, her Troponin I and echocardiography were done, which were within normal limits. She was treated with IV nicorandil, antiplatelets and statin. She responded to treatment, and subsequently, her serial Trop I and echo were normal. ECG changes gradually reverted to normal in next 3–4 days and she was discharged in stable condition on day 5. Her further workup for angina revealed normal coronaries on conventional angiography. She fits into typical case of cervical angina one of the rare entities.

Keywords: Cervical angina, Discopathy, Troponin, Electrocardiogram

INTRODUCTION

Cervical angina is one of the rare disorders presenting as chest pain in cases of cervical prolapse intervertebral disc.

The proposed mechanism for this entity is due to compression of vagus and glossopharyngeal nerve which shares proximity in its course with C5 and C6 vertebra. The management of this angina is by fixing the problem of cervical Prolapsed intervertebral disc (PIVD).

CASE REPORT

A 39-year-old female was admitted with history of cervical radiculopathy for prolapse intervertebral disc surgery. Pre-surgical check-up was uneventful. There was no history of hypertension, diabetes mellitus or ischemic heart disease in past. Her blood investigations, electrocardiogram (ECG) [Figure 1] and echocardiography, all were within normal limits. Post-operative within 2–3 h, she developed severe angina with gross ST-T changes in anterior leads [Figure 2]. Her Troponin I after 2 h and echocardiography were done, which were within normal limits. She was treated with IV nicorandil, antiplatelets and statin. She responded to treatment, and subsequently, her serial Trop I and echo were normal. ECG changes gradually reverted to normal in next 3–4 days [Figure 3] and she was discharged in stable condition on day 5. Her, further, workup for angina revealed normal coronaries on conventional angiography. She fits into typical case of cervical angina one of the rare entities.

DISCUSSION

'Cervical angina is defined as pseudo angina that resembles true cardiac angina but originates from a cervical discopathy with nerve root compression. This condition, which is also referred to as pseudo angina, most commonly results from compression of the C7 nerve root. Several simple findings from the history and the physical examination help make the diagnosis, which can, then, be confirmed with magnetic resonance imaging and/or discography. Coexisting coronary artery disease must always be ruled out. The treatment includes intermittent cervical traction, physical therapy, non-steroidal anti-inflammatory drugs and muscle relaxants. If these measures fail to alleviate the patient's pain, referral to a spine surgeon may be indicated.'[1]

In August 2006, researchers wrote in the medical journal Spinal Cord[2] called Cervical Angina: 'A seemingly still neglected symptom of cervical spine disorder'. They wrote: Among the multitude of symptoms of cervical spine disorders, cervical angina may be miscellaneous, but it must be always recognised in clinical practice. In addition, the symptoms tend to be misidentified more frequently in elderly

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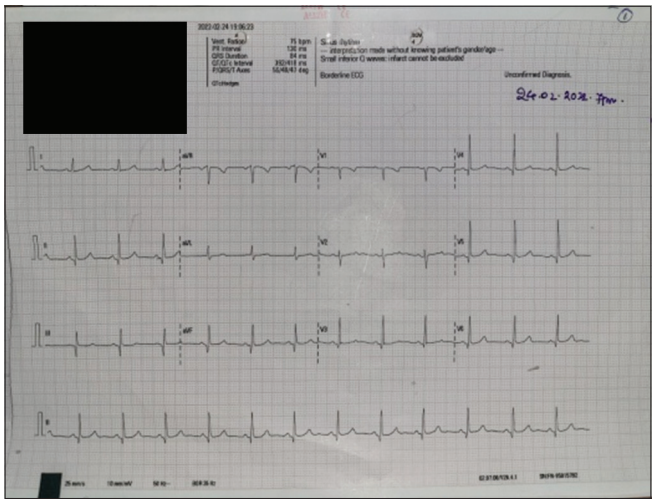

Figure 1: Normal electrocardiogram.

Figure 2: Gross ST-T changes in anterior leads.

individuals due to the increased incidence of coronary artery diseases**.** The symptom is rather easily recognizable when the patient presents with neurological signs of spinal cord compromise; however, actually frequently, it appears to be a missing problem without careful examination. Many investigators have described details of this status, but it appears still neglected in the routine clinical practice.

In 2015, doctors and neurosurgeons at Saint Vincent Hospital in Worcester Massachusetts wrote in the medical journal the Neurohospitalist.[3]

'Cervical angina often presents with anterior chest pain and has been described as sharp, achy or crushing in quality. Some patients may even experience relief with nitroglycerin. Symptoms may be present at rest or exacerbated by physical activity. Associated neck pain, stiffness, headaches, and shoulder, or arm pain may be present. Up to 50–60% of

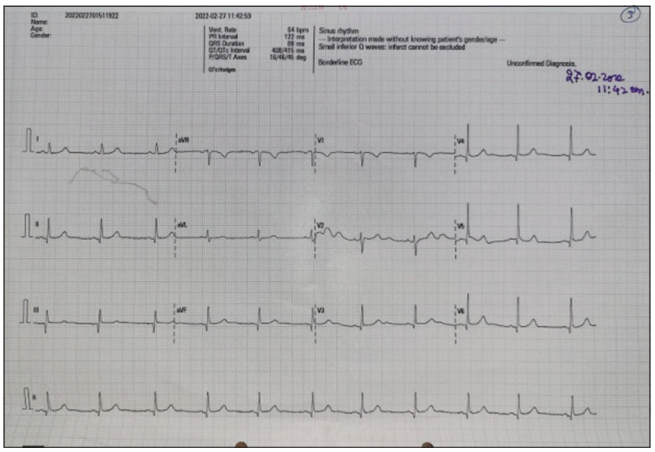

Figure 3: Normal electrocardiogram (4th day after onset of symptoms).

patients experience autonomic symptoms, dyspnoea, nausea, diaphoresis, pallor, fatigue, diplopia, and headaches, but the mechanism is not well explained.

Mechanism of cervical angina

The sensory nerves that carry the impulse to brain, regarding heart rate and blood pressure, are carried by the vagus nerve and the glossopharyngeal nerve. If the messages that these sensory nerves need to deliver to the brain are blocked or impaired, the cardiac symptoms described can develop [Figure 4]. The image in [Figure 5] displays the proximity of the vagus nerve, the glossopharyngeal nerve, and the spinal accessory nerve to the C1–C2 vertebrae. This proximity makes compression of these nerves common in cervical spine instability.

Treatment of cervical angina

Cervical angina can be treated conservatively or surgically. A summary in the journal Clinical Spine Surgery[4] compared Anterior Cervical Discectomy and Fusion versus conservative treatment for cervical angina. The conservative treatment methods are described as non-steroidal anti-inflammatory drugs, physiotherapy, traction and collar immobilisation or stellate ganglion block. In this study, 163 patients with cervical angina with advanced chest pain, tightness or palpitation were retrospectively studied. Twenty-three patients underwent surgery and 140 patients were treated conservatively. Over 2 years of follow-up, good or excellent results were obtained in 78.2% of surgical cases and 35% of nonsurgical cases, thereby concluding surgical management provides better relief of symptoms. However, this has to be validated by large randomised control trials. Prolotherapy is an injection of simple dextrose into the unstable cervical spine. The concept is that these injections will strengthen the cervical ligaments thereby providing a stronger or more stable connection between the cervical vertebrae.[5]

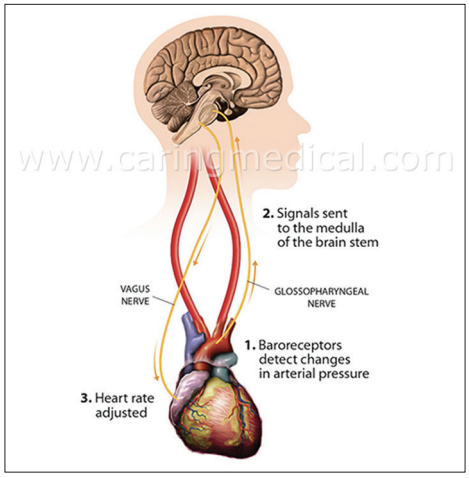

Figure 4: Glossopharyngeal afferents supplying the medulla with continuous mechanoreceptive signals from baroreceptors at the carotid sinus. This information is used to rapidly adjust sympathetic and parasympathetic activity.

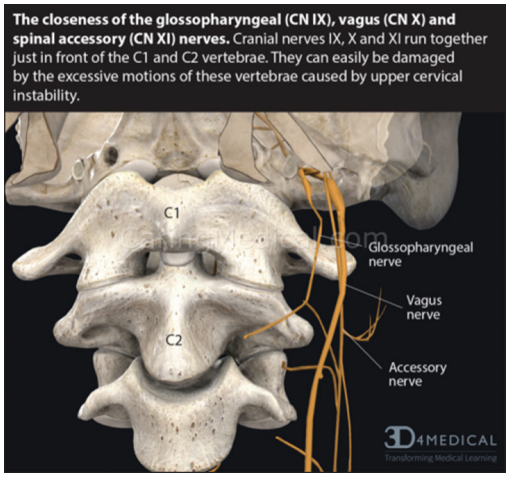

Figure 5: Cranial nerves 9th, 10th & 11th running together in close proximity to C1 & C2 vertebra.

CONCLUSION

We are presenting one of the rare cases of cervical angina which are often missed in clinical practice in young females presenting with chest pain, ECG changes and normal coronaries. If they have neurological features, diagnosis is simple but if these cases present only with chest pain then it's difficult to pick up if the physician is not aware of this rare entity of cervical angina.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent.

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Nil.

Conflicts of interest

There are no conflicts of interest.

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