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Cervical Radiculopathy: A Review

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Abstract

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Background

Cervical radiculopathy is defined as a syndrome of pain and/or sensorimotor deficits due to compression of a cervical nerve root. Understanding of this disease is vital for rapid diagnosis and treatment of patients with this condition, facilitating their recovery and return to regular activity.

Purpose

This review is designed to clarify (1) the pathophysiology that leads to nerve root compression; (2) the diagnosis of the disease guided by history, physical exam, imaging, and electrophysiology; and (3) operative and non-operative options for treatment and how these should be applied.

Methods

The PubMed database was searched for relevant articles and these articles were reviewed by independent authors. The conclusions are presented in this manuscript.

Results

Facet joint spondylosis and herniation of the intervertebral disc are the most common causes of nerve root compression. The clinical consequence of radiculopathy is arm pain or paresthesias in the dermatomal distribution of the affected nerve and may or may not be associated with neck pain and motor weakness. Patient history and clinical examination are important for diagnosis. Further imaging modalities, such as x-ray, computed tomography, magnetic resonance imaging, and electrophysiologic testing, are of importance. Most patients will significantly improve from non-surgical active and passive therapies. Indicated for surgery are patients with clinically significant motor deficits, debilitating pain that is resistant to conservative modalities and/or time, or instability in the setting of disabling radiculopathy. Surgical treatment options include anterior cervical decompression with fusion and posterior cervical laminoforaminotomy.

Conclusion