

# A Systematic Review of Primary Spinal Amyloidoma: Lessons Learned From Surgically Managed Lesions

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## Introduction

Amyloidosis encompasses a group of disorders involving deposits of insoluble fibrillary proteins in tissues, sometimes as masslike amyloidomas. Spinal primary amyloidoma (SPA) can cause focal destruction of vertebral elements, leading to focal neurologic disorders. We present a systematic review of published cases of SPA that underwent surgery and make recommendations regarding their surgical management.

## Methods

A systematic review was conducted using the PubMed database and the terms amyloid\$ spine, resulting in 249 studies. Reviews of all studies were performed, resulting in 29 studies relevant to surgically-treated SPA. Outcomes studied included number and locations of lesions, presenting symptoms, surgical interventions performed (including spinal fusion), and deficits at follow-up.

## Results

Thirty cases (20 male, 10 female) were reviewed. Mean follow-up was 1.78 years. Cervical and thoracic lesions were more common than lumbar ( $\chi^2 = 7.4$ ,  $P = 0.03$ ). Most patients presented with symptoms of chronic myelopathy. Posterior, anterior, and combined approaches comprised 48.4%, 21.2%, and 21.2% of surgical interventions, respectively. Fusion was performed in 54.5% of cases, and thoracic lesions were more likely to require fusion ( $\chi^2 = 7.0872$ ,  $P = 0.03$ ). At follow-up, 75% of patients achieved at least partial neurologic recovery, and 37.5% reached complete recovery. No relationship was found between degree of recovery and symptom duration, lesion location, surgical approach, or use of fusion. Results were limited by incomplete reporting of data across our series.

## Conclusions

SPA increases the potential for spinal instability and neurologic injury. Current understanding of surgery for SPA is limited to decompression in cases of rapid neurologic deterioration. We demonstrate that SPA should be considered for masses causing focal neurologic symptoms, and that decompression even in patients with chronic symptoms can be beneficial.

## Learning Objectives

- 1) Describe the typical presentation of spinal primary amyloidoma,
- 2) Discuss typical surgical approaches, including fusion, to spinal primary amyloidoma,
- 3) Discuss the historical results of surgical treatment of spinal primary amyloidoma

## References

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