

THE RESULTS OF SURGICAL TREATMENT OF SPONDYLODISCITIS. A SINGLE CENTER EXPERIENCE

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INTRODUCTION

Spondylodiscitis is an infection of the intervertebral disc and osteomyelitis of the surrounding vertebrae. There are a number of potential causes for this infection, with hematogenous spread of infectious organisms being the most common. Staphylococcus aureus has been found to be the most prevalent of the several organisms that have been implicated in the problem.

Clinical presentation is variable; symptoms and signs comprise back pain, fever, nausea, and loss of weight. Due to its indolent character, and the difficult differential diagnosis, the diagnosis is often delayed. This sometimes causes serious complications such as irreversible neurological deficits or death.

We can rely on magnetic resonance imaging (MRI) to detect spondylodiscitis in the early stages when conventional imaging methods like plain films and computed tomography (CT) are unreliable. The definite diagnosis could be achievable by taking biopsy of the disc in addition to isolation of the organism.

AIM OF THE WORK

The aim of our study was to evaluate the results of one center in surgical management in patients of thoracic and lumbar spondylodiscitis.

SUBJECTS AND METHODS

- We retrospectively reviewed the records of patients who were treated for thoracic and lumbar spondylodiscitis at our spine surgery unit of a tertiary orthopedic center between January 2016 to December 2021.

- The age of the patients ranged between six to 77 years old. There were 18 males (58.1%) and 13 females (41.9%).
- The surgical strategy aimed to thorough debridement of the infected tissues, the drainage of all abscess collections, to preserve neurological functions, to ensure the mechanical stability of the column and correction of deformities in addition to the anterior column reconstruction using local metal cages or bone graft.
- The neurological assessment was made using The American Spinal Injury Association (ASIA) Impairment scales
- The assessment of fusion based on The Brantigan, Steffee, and Fraser (BSF) criteria.
- Local and global Cobb angles were measured to assess difference between preoperative and postoperative kyphosis.

RESULTS

Agreement between analysis of reviewer 1 and 2 about fusion

As regards to fusion, 22 (84.6%) patients were fused, and four (15.4%) patients were not fused. There was very good agreement between the two reviewers about fusion. (Table 1) ($P < 0.001$) ($k = 1.000^*$).

Table 1: Agreement between analysis of reviewer 1 and 2 about fusion (n=26)

	Analysis (1)		Analysis (2)	
	No.	%	No.	%
If non fusion				
Not fused	4	15.4	4	15.4
Fused	22	84.6	22	84.6
κ (p)	1.000* (<0.001*)			
Agreement	Very good agreement			

κ : kappa test

*: Statistically significant at $p \leq 0.05$

ASIA impairment scale of the patients (preoperative and postoperative):

There was a high significant difference between preoperative and postoperative assessment. (Table 2) ($P < 0.001$).

Table 2: Distribution of the studied cases according to ASIA impairment scale (n=26#)

ASIA impairment scale	Pre		Post		MH	P
	No.	%	No.	%		
A	1	3.8	0	0.0	4.123*	<0.001*
B	6	23.1	0	0.0		
C	8	30.8	2	7.7		
D	3	11.5	5	19.2		
E	8	30.8	19	61.3		

MH: Marginal Homogeneity Test

p: p value for comparing between **Pre** and **Post**

*: Statistically significant at $p \leq 0.05$

CONCLUSION

- The surgical management of spondylodiscitis in the form of posterior stabilization, debridement and anterior column reconstruction has good results as regards to control of the infection, fusion and neurological recovery.
- The fusion is not significantly affected by sex, age, follow up or level.