

# Role of Surgery in Spontaneous Spondylodiscitis: A Retrospective Analysis of 83 Consecutive Patients

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#### **Methods**

Retrospective review of the outcome and complications of a cohort of patients undergoing surgery for spontaneous (non postoperative) spondylodiscitis of any spinal level and etiology.

### **Leasons learned:**

- 1. Prolongued and antibiogramdriven antimicrobial treatment is key for the curation of the disease. Efforts need to be made in order to obtain adequate specimen for microbiological cultures before antibiotics are initiated.
- 2. When cultures are negative, histopathologic examination is helpful in identifying the cause of the diskitis. Solid samples from the infectious focus are the preferred specimens.
- 3. The degree of tissue affectation in early MR images after treatment initiation do not correlate with the clinical status. Decreased lab parameters (ESR, CPR) and the improvement of local pain are better indicators of initial favorable outcome 4. In our experience, metallic internal fixation (titanium devices) accelerates curation of the disease and does not predispose to chronic infection.
- 5. Surgical debridement and instrumented arthrodesis in spontaneous spondylodiskitis of any origin has a complication rate similar to other spinal fixation operations. Global mortality rate is relevant but in accordance with a disseminated severe infectious disease.

#### Results

From 1995 to 2014, **83 patients** (45% females, median age 66) with spondylodiscitis were treated. Microbiological confirmation was obtained in 67.4%. **Forty-four percent of patients presented with neurological defect**. The most common affected level was thoracic (54.2%). The most frequent isolations were Mycobacterium tuberculosis (22,9%), Staphyloccocus aureus (20.5%) and MRSA (7.2%).

Eighty-one patients underwent

surgery: simple laminectomy and/or biopsy (22.2%), debridement and posterior fixation (43.2%) and debridement and anterior fixation (34.5%). Improvement of pain or neurological defect was achieved in 86.7% of the patients; 7 patients stabilized and 3 worsened. Complications occurred in 36% of the cohort, mainly pleural effusion (9), anemia (7) and need for redebridement (7). Median postoperative stay was 14 days. After a median follow up of 5.6 months, 46 patients were considered completely

cured, 10 presented sequels, 22

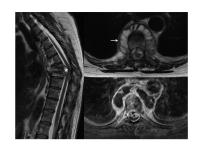
patients were lost and 5 patients

died. No readmissions occurred

because of the infectious episode.

**Examples of spontaneous spondylodiscitis:** 

#### S aureus meticillin resistant

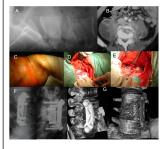


Preoperative MR views

#### Microbial agents identified:

- 18 Mycobacterium tuberculosis
- 15 S aureus meticilin-sensitive
- 6 S aureus meticilin-resistant
- 2 Staphylococcus epidermidis
- 1 Staphylococcus hominis
- 2 Echinococcus granulosus
- 1 Streptococcus agalactiae
- 1 Streptococcus mitis
- 1 Streptococcus gordonii
- 1 Brucella mellitensis
- 1 Propionibacterium acnes
- 1 Escherichia coli
- 1 Actinomyces meyerii
- 1 Aspergillus spp
- 1 Corynebacterium urealyticum
- 1 Enterococcus faecalis
- 1 Multiple germs
- 1 M. tuberculosis + S. epidermidis +
- E. faecalis
- 1 S. hominis + S. epidermidis
- 1 A. meyerii + S. epidermidis
- 1 S. epidermidis + C. urealyticum (multiresistant)

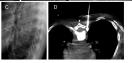
## Brucella melitensis



Anetrolateral extraperitoneal debridement and fixation

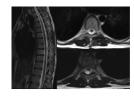
# Micobacterium tuberculosis





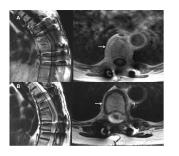
Preoperative (A), 6 weeks (B) and 4 months (C) postop mages

#### Micobacterium tuberculosis



Complete osseous fusion 6 months after debridement

#### S aureus meticillin resistant



Postoperative MR view after 2 (A) and 7 (B) months

# Actynomices meyerii + S epidermidis



Paravertebral purulent collections and osseous destruction

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