



Clinical Characteristics and Outcomes of Brucellar Spondylitis in a Non-endemic Region of Southern China

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CONTEXT & OBJECTIVE

Brucellosis, traditionally concentrated in northern pastoral China, is increasingly reported in the south, where limited awareness and incomplete exposure histories may delay diagnosis. We therefore characterized the clinical presentation, microbiology, imaging, treatment, and ≥ 1 -year outcomes of brucellar spondylitis in a southern Chinese referral cohort.

STUDY DESIGN & COHORT

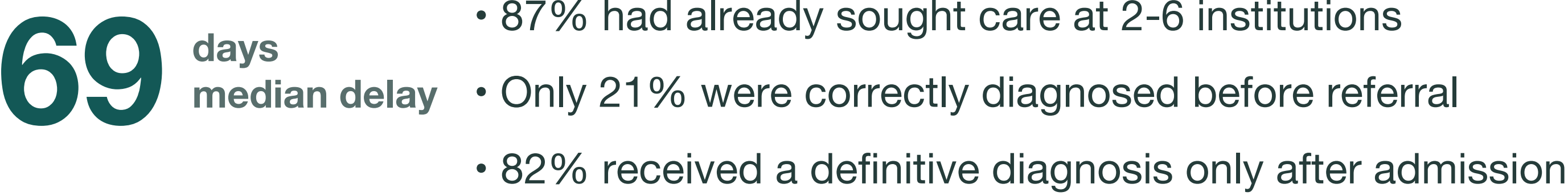
Single-center retrospective case series in southern China
(Jan 2015–Apr 2025)



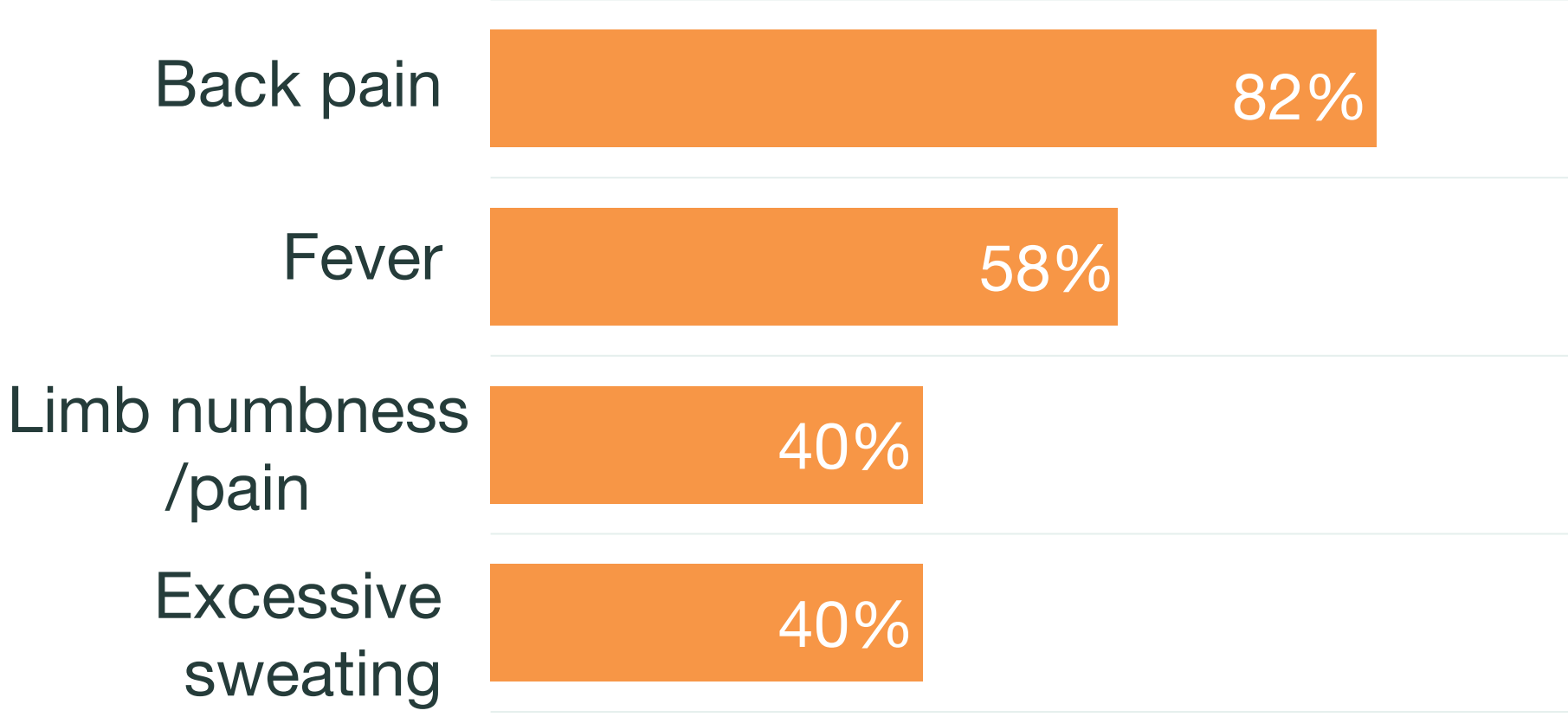
Two patients were excluded for incomplete records; seven lacked ≥ 1 -year follow-up.

COHORT CHARACTERISTICS	
Characteristic	Value
Age, years	55 ± 11
Female sex	22/45 (49%)
Rural residence	26/45 (58%)
High-risk occupation	16/42 (38%)
Sheep-related exposure	24/45 (53%)
No clear/incomplete exposure	10/45 (22%)

DIAGNOSTIC JOURNEY



CLINICAL MANIFESTATIONS



INFLAMMATORY PROFILE

WBC	7 ± 2 × 10 ⁹ /L
CRP	45 ± 35 mg/L
ESR	57 ± 28 mm/h

Normal mean WBC despite elevated CRP and ESR

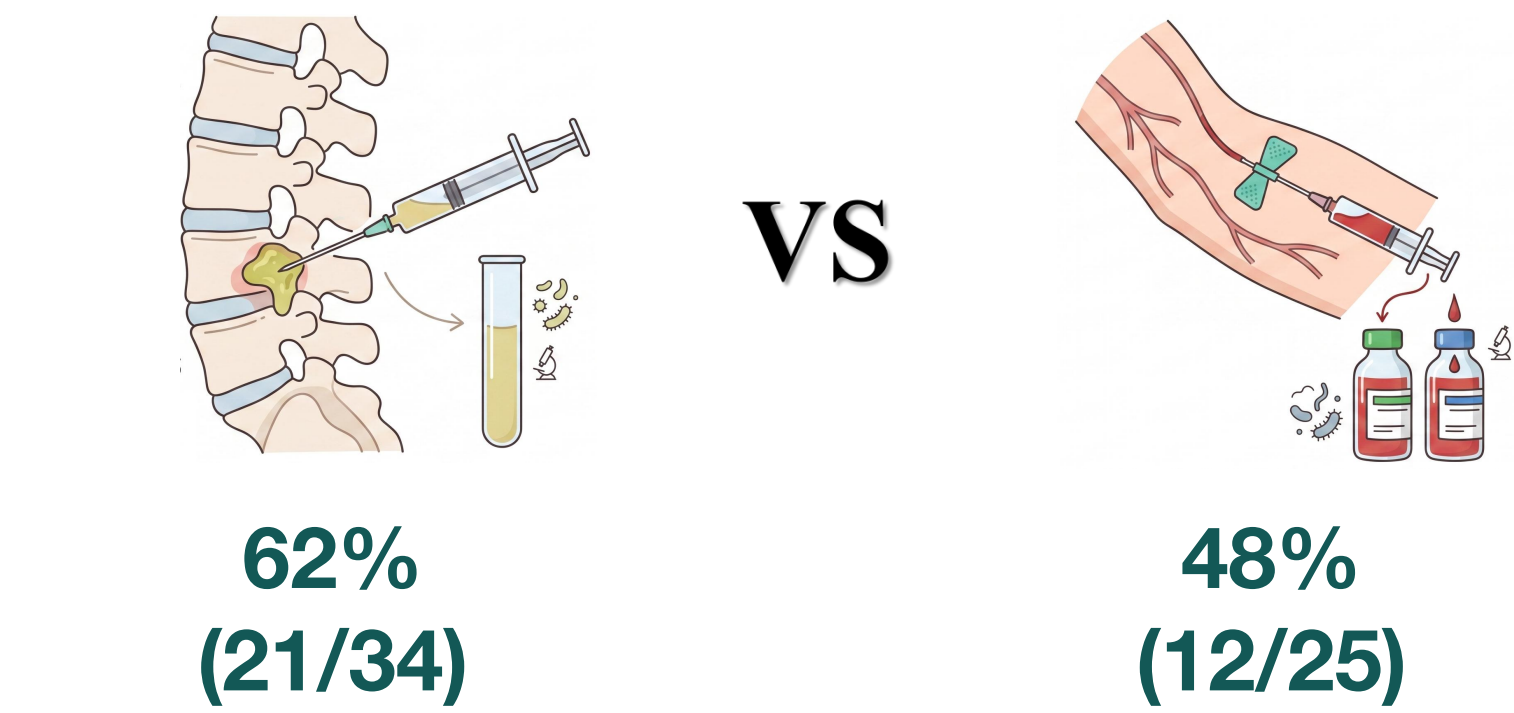
42% Localized neck/back pain, sometimes with radicular symptoms, but without prominent systemic manifestations.

MICROBIOLOGIC YIELD

Focal lesion aspiration culture

Blood culture

VS



BONFERRONI-CONFIRMED

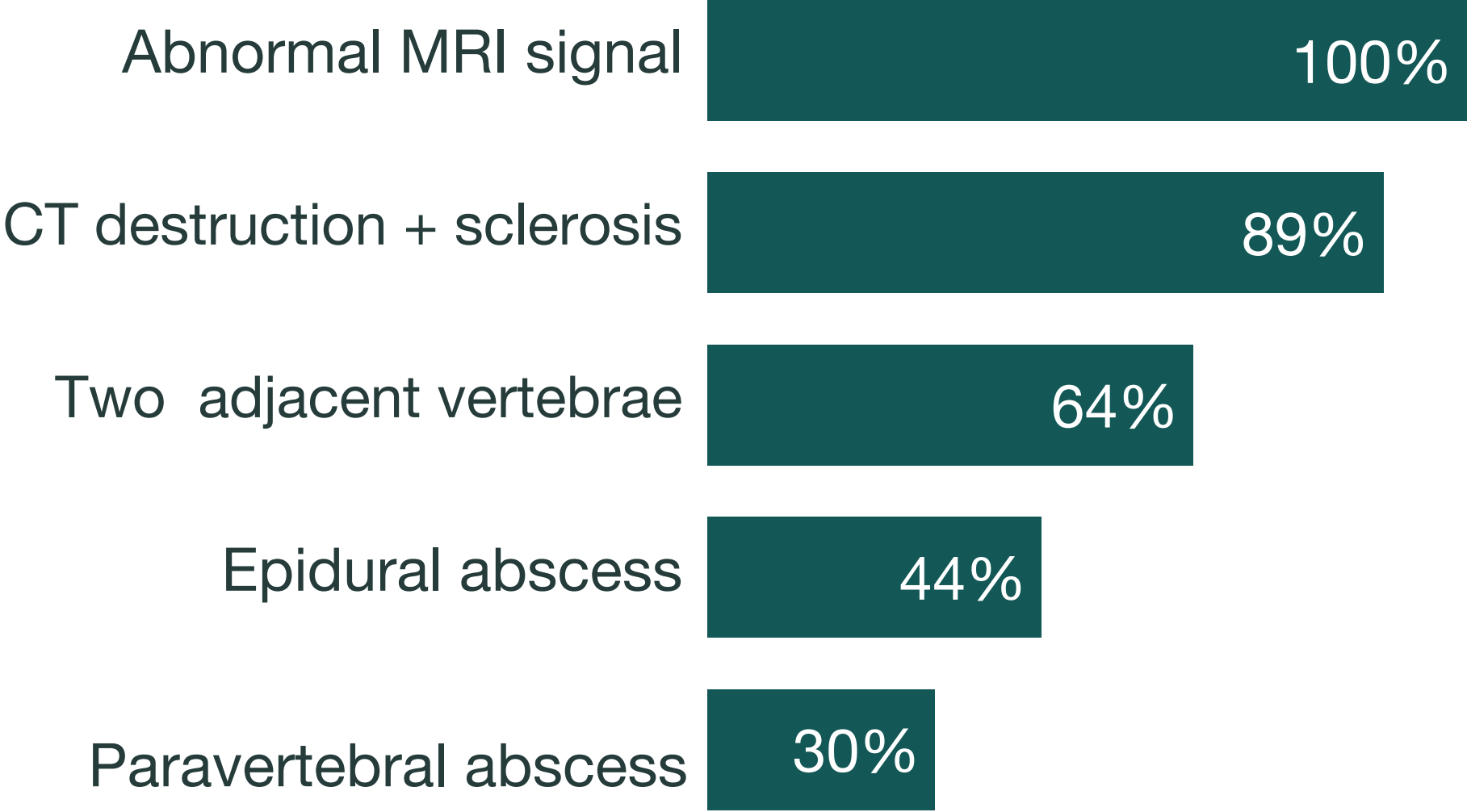
Lower albumin with positive lesion culture
30 ± 5 vs 36 ± 4 g/L **p = 0.001**

EXPLORATORY ONLY

- Prior antibiotics: 25% vs 77%
- Blood culture-positive vs negative; **p = 0.02**
- CRP: 56 ± 29 vs 30 ± 26 mg/L
- Lesion culture-positive vs negative; **p = 0.01**

Univariable comparisons; Bonferroni-adjusted significance threshold $p < 0.007$.

IMAGING PROFILE



ANATOMIC DISTRIBUTION

42%	Lumbar
33%	Lumbosacral

MOST INVOLVED LEVELS

L5 24% | L4 21%

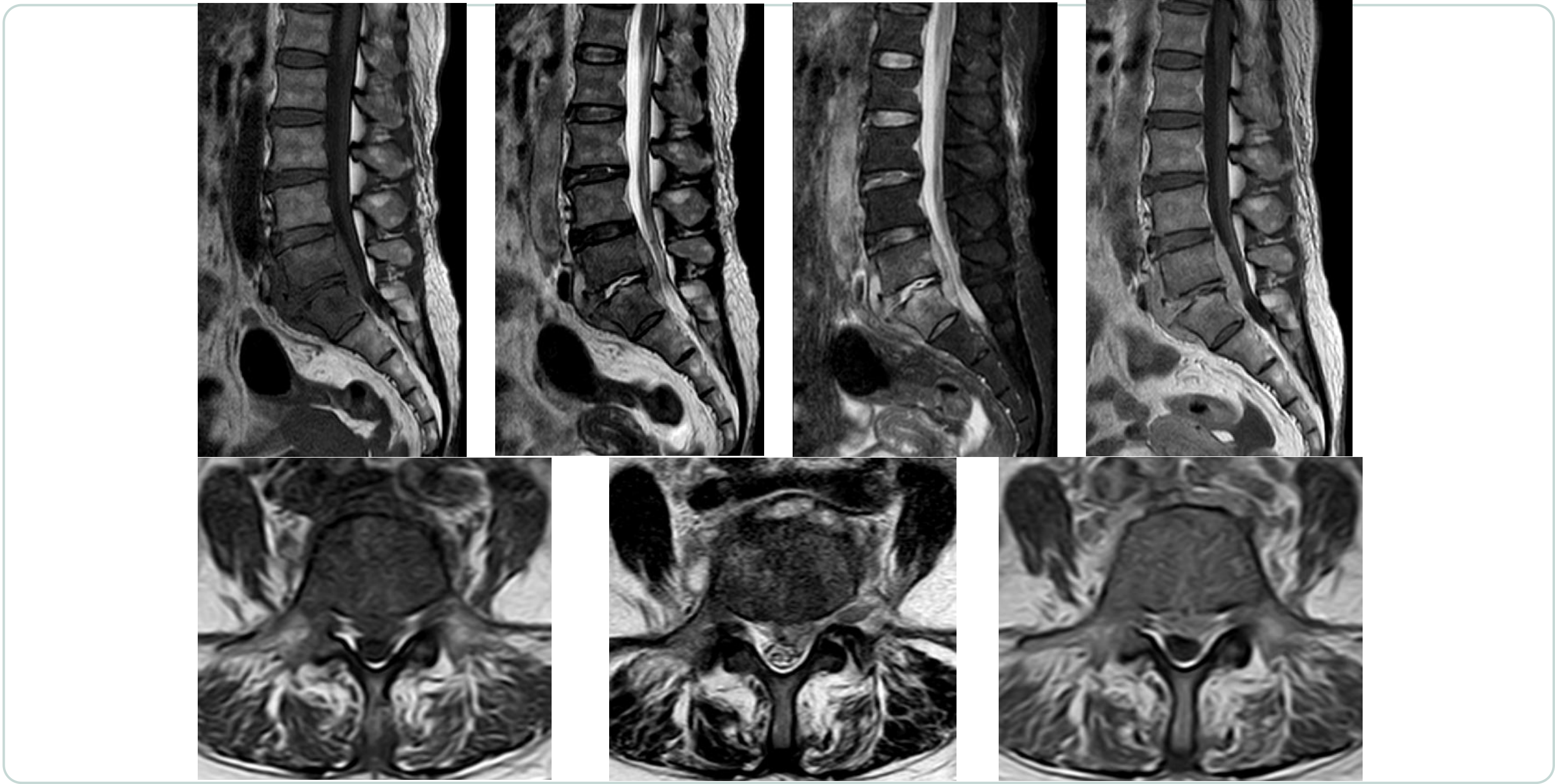
Lower-lumbar involvement predominated; abscesses remained localized.

CHARACTERISTIC CT FINDINGS



Vertebral and endplate destruction with prominent reactive sclerosis, accompanied by characteristic parrot-beak osteophytes and lace-like vertebral margins.

CHARACTERISTIC MRI FINDINGS



L5/S1 endplate and disc involvement with paravertebral and epidural abscesses, clearly delineating marrow and soft-tissue disease.

TREATMENT



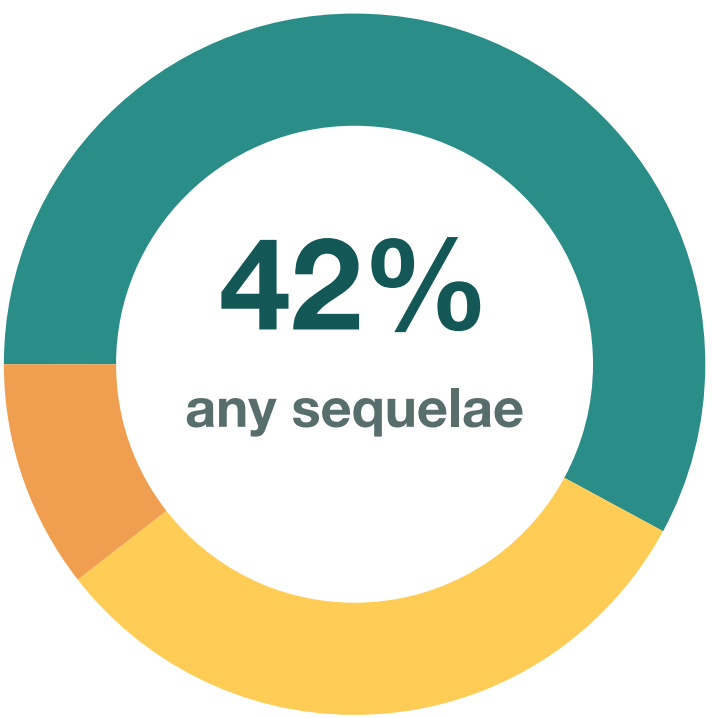
All patients received doxycycline-based combination therapy. Mean treatment duration was 4 ± 2 months; 71% were treated for >3 months.

Surgery (11/45): laminectomy/epidural abscess clearance 6; lumbar fusion 5.

MINIMUM 1-YEAR OUTCOMES



Recovered 36 | Failure 2 | Recurrence 0



None 22 | Mild 12 | Moderate 4

CLINICAL TAKE-HOME

In a nonendemic region, persistent spinal pain with elevated CRP/ESR and a relatively normal WBC count should prompt *Brucella* serology and early cultures - even without a classic occupational history. Infection control does not always equal full functional recovery.