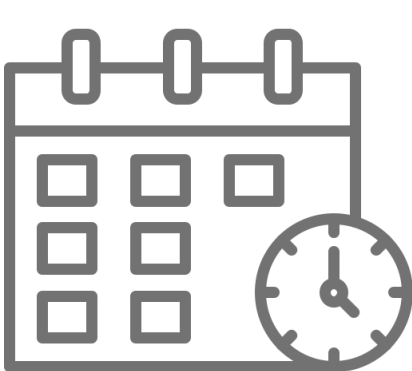


Native Vertebral Osteomyelitis (NVO) accounts for 2%–7% of osteomyelitis cases in adults¹, with rising global incidence. Epidemiology varies by region, age, and risk factors. The typically subacute presentation often delays diagnosis. Given the limited regional data available, this study aims to better characterise NVO and describe diagnostic and therapeutic approaches.

A retrospective study was conducted in adults (≥18 years) diagnosed with NVO. Clinical, epidemiological, and microbiological data, as well as medical–surgical management, were extracted from medical records and analyzed. Statistical analysis was performed using STATA® 14.2.



PERIOD
2013-2024



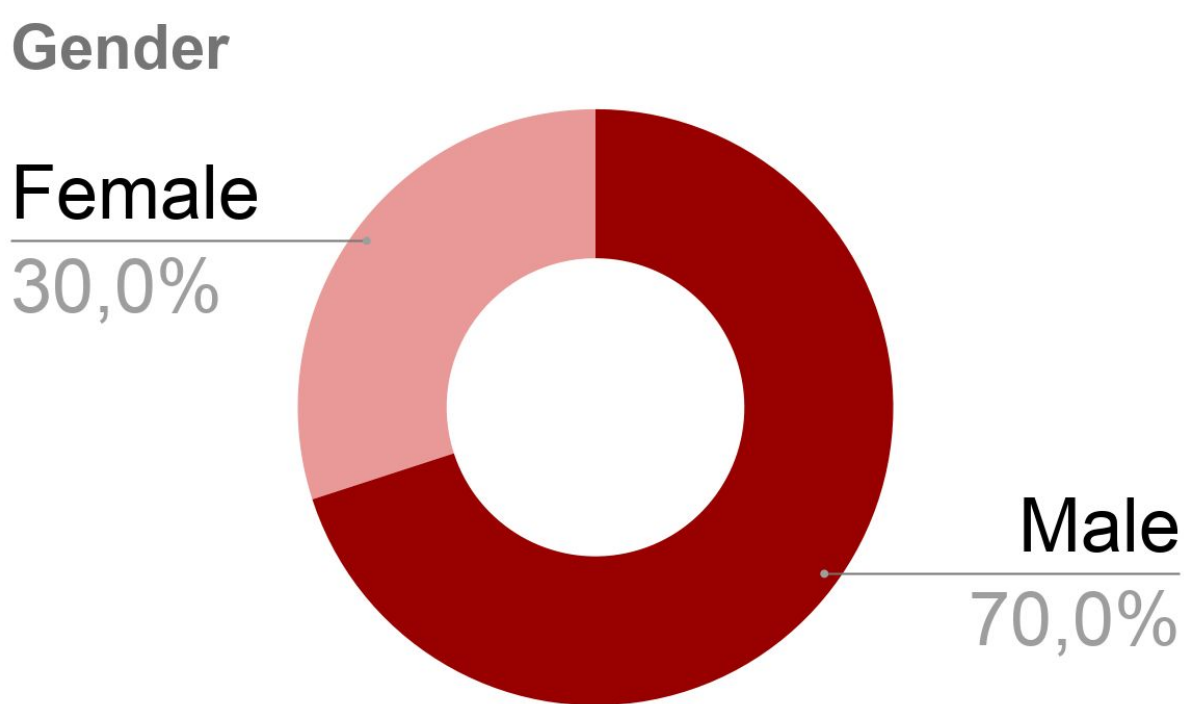
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Results

Ninety individuals with clinical and imaging diagnoses of NVO were included. Table 1 presents clinical characteristics of the cohort.

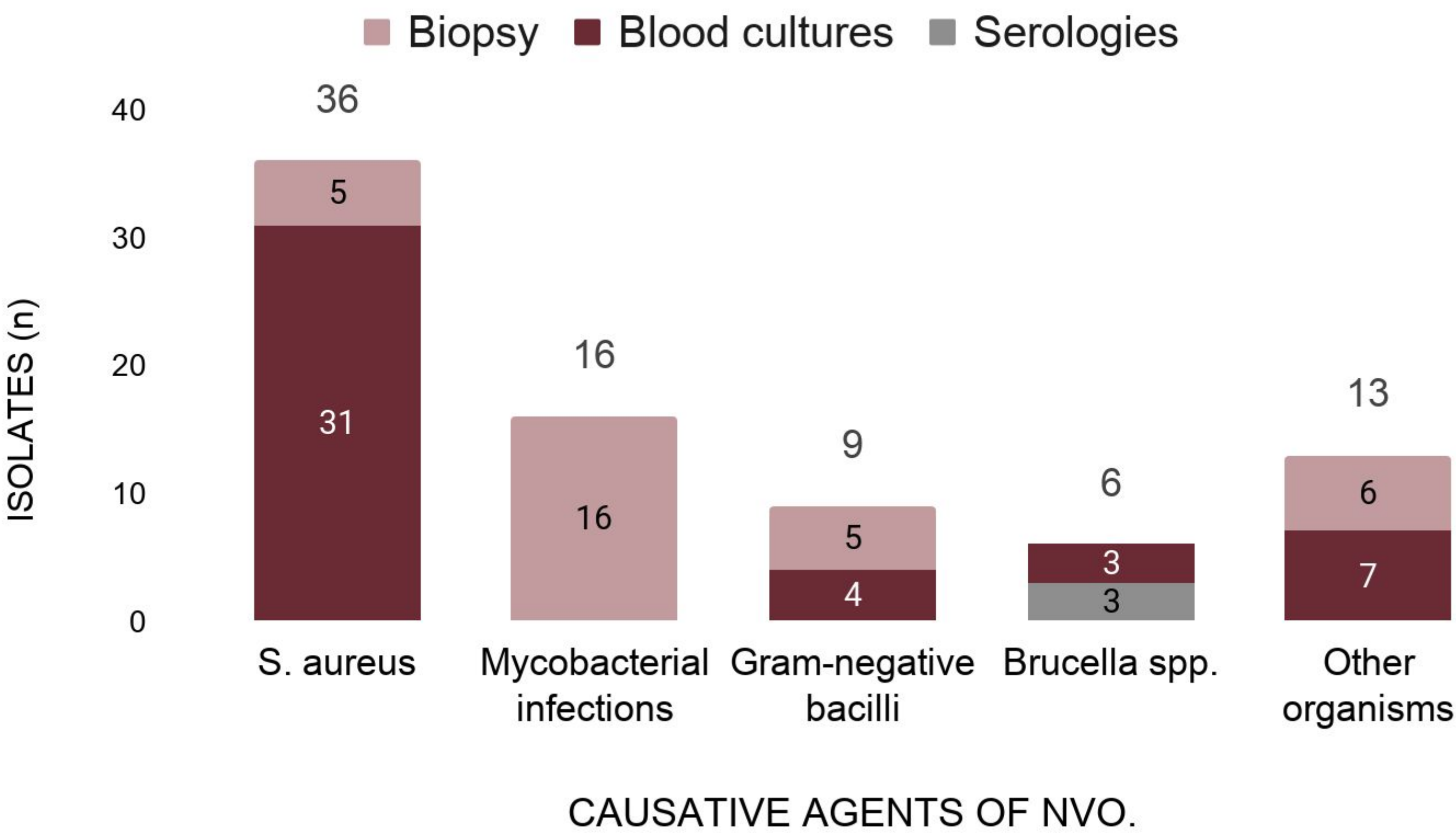


Median age: 54 years (IQR 44–60.75)



Gram-positive cocci were the predominant isolates (45; 50%), with *Staphylococcus aureus* accounting for 80% (36/45). Mycobacterial infections were identified in 16 cases (17.8%)—*Mycobacterium tuberculosis* complex (15) and *M. avium*–*intracellulare* (1). The remaining microbiological findings are detailed in Figure 1.

Figure 1



Treatment

Treatment duration was analyzed only in patients with pyogenic spondylodiscitis (PSD); 24 patients were excluded (19 lost to follow-up, 5 deaths). Among the 44 individuals included, median intravenous therapy was 4 weeks (IQR 2–6) with a total treatment duration of 13 weeks (IQR 12–19). Surgery was required in 16 PSD cases (23.5%), 8/15 tuberculous NVO (53.3%), and 1/6 brucellar NVO (16.7%).

Table 1: Clinical characteristics of individuals with NVO (n= 90)	n / median (%/ IQR)
Gender	
Male	63 (70)
Female	27 (30)
Age	54 (60.75-44)
Risk factors	
Absent	42(46,7%)
Present	48(53,3%)
Diabetes mellitus	23 (25,5%)
HIV	12 (13,3%)
Structural spinal alteration	10 (11,1%)
Cancer	8 (8,9%)
End-stage renal disease	3 (3,3%)
Intravenous drug use	3 (3,3%)
Clinical manifestations (N: 84 - 6 excluded due to missing data)	
Pain	68 (80.9%)
Fever	33 (39.28%)
Neurological deficit	21 (25 %)
Anatomic distribution	
Lumbar spine	51 (56.7%)
Thoracic spine	19 (21.1%)
Cervical spine	9 (10%)
Involvement of multiple spine levels	11(12.2%)

Conclusions

Diabetes was the most frequent comorbidity and pain was the predominant clinical presentation, underscoring the need for a high index of suspicion in this population. Although Gram-positive cocci were the predominant pathogens, the prevalence of tuberculosis and brucellosis in our setting highlights the importance of tailoring diagnostic strategies to regional epidemiology. The high frequency of neurological complications and surgical interventions further emphasizes the need for earlier diagnosis and timely management.

¹ Placide, R. & Reznicek, J. (2025). Evaluation and management of pyogenic spondylodiscitis: A review. *Journal of Clinical Medicine*, 14(10), 3477. <https://doi.org/10.3390/jcm14103477>