

# A Paper: Oral versus standard antimicrobial treatment for pyogenic native vertebral osteomyelitis (NVO)

## ORAL FIXATION

The OVIVA trial showed that PO antibiotic regimens started 7 days post-op was non-inferior to the IV regimen in bone/joint infection (total of 6/52 of treatment). But, can oral antibiotics be given for the entire duration of NVO treatment without an IV lead?



## SETTING

A retrospective study on adult ( $\geq 18$  years old) patients managed at a tertiary hospital.

**Outcome variable:** clinical cure - sustained absence of fever + normal inflammatory markers + pain remission at 12 months after the EOT.

**Exposure variables:** Oral treatment (OT) vs. standard treatment (ST) arms

- For PO: IV therapy was allowed for  $< 24$ H.
- For ST: IV lead in ( $> 24$ H) followed by PO step down.

*NB: It excluded patients with previous vertebral surgery, NVO due to direct extension of pressure ulcers/penetrating traumas, or spinal infections caused by TB/fungus/brucella.*

## BASELINE DEMOGRAPHICS

	PO (54)	ST (159)
Median age (yo)	68	68
Female	31.5%	32.1%
CCF	16.7%	23.3%
Diabetes	20.4%	17.6%
Risk for NVO		
Invasive procedures	24.1%	15.7%
IVDU	9.3%	4.4%
Systemic bacterial infection	44.4%	31.4%
Charlson comorbidity index/CCI	4 (2-6)	5 (2-7)
Abscess	62%	55.1%
Infective endocarditis	10.7%	27.5%
Pre-treatment CRP (mg/dL)	4 (2-9)	6 (3-11)
CRP normalisation time (days)	30	30



N = 213

## RESULTS

**19 patients died:** 11 during the antibiotic therapy and 8 during the follow-up. Overall, 33 (13.3%) failed the therapy.



Oral therapy **was not** associated with an increased risk for failure.

However, these were found to be significant predictors for failure (multivariate):

- CCI (aOR 1.291, CI95% 1.114-1.497,  $p=0.001$ )
- MDRO etiology (aOR 3.301, CI95% 1.368-7.964,  $p=0.008$ )

In subgroup analysis for Staph. NVO/unknown origins, the use of rifampin was associated with a favorable outcome (aOR 0.315, CI 95% 0.105-0.949,  $p$  value=0.040).

## TAKE HOME MESSAGE

In patients affected by pyogenic NVO not due to MDRO, an entirely oral highly bioavailable treatment, including rifampin for staphylococcal NVO and in case of unknown etiology, may be as effective as parenteral treatment.

