Evaluation of thrombocytopenia in patients treated with linezolid in a tertiary hospital

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Background and Importance

Linezolid-induced **thrombocytopenia** is a clinically relevant adverse effect in hospitalised patients, especially during prolonged treatment. Given the 7–10 day platelet lifespan, understanding its temporal relationship with therapy is key for appropriate monitoring.

Aim & Objectives

To determine the incidence of thrombocytopenia (<150 × 10^9/L) in patients treated with linezolid and identify associated risk factors.

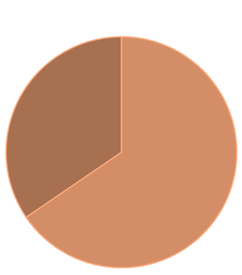
Material & Methods

- Tertiary hospital
- Retrospective observational study (Oct 2024 – Feb 2025)
- Adult inpatients treated with linezolid ≥48 h
- Excluded: pre-existing thrombocytopenia
- **Statistical analysis: Wilcoxon paired test**

Variables
Platelet count (baseline and final)
Serum creatinine
Treatment duration
Clinical indication
Isolated microorganisms
Plasma linezolid levels (if available)

Results

164 patients out of 314 were included

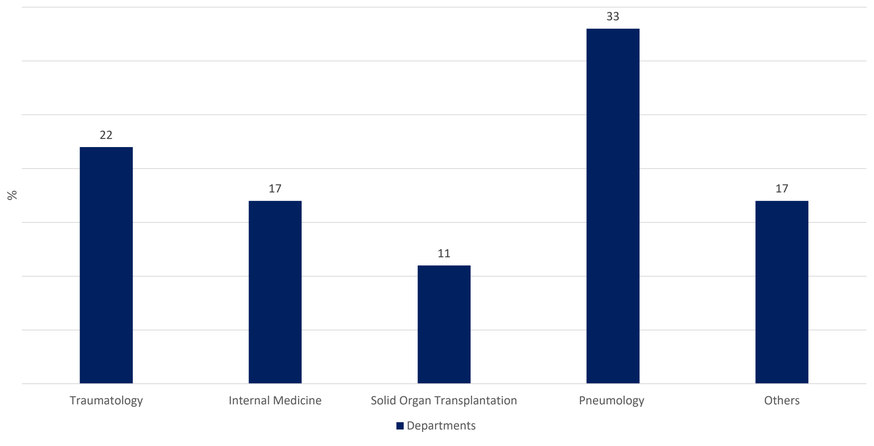


61% of thrombocytopenic patients showed renal function worsening

No patients with thrombocytopenia had plasma linezolid concentrations measured

18 Patients developed thrombocytopenia during therapy (11%)

10 days (standard deviation 3.4)



A significant reduction in platelet count was observed at the end of treatment ($p < 0.001$).

Conclusion and relevance

Linezolid-associated thrombocytopenia occurred in approximately 11% of hospitalised patients and was more frequent in those with renal impairment. Regular platelet and renal function monitoring, along with therapeutic drug monitoring in selected high-risk patients, may improve treatment safety and optimise clinical outcomes.