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Efficacy of corticosteroids in the treatment of chemotherapy-induced thrombocytopenia

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Background

Chemotherapy-induced thrombocytopenia (CIT, platelet [PLT] count ≤ 100,000/μL after chemotherapy) is a common side effect with an incidence ranging **from 16.5% to 21.8%** in the global population, but **higher than 30%** in the patients treated with **platinum- or gemcitabine-based regimens**[1,2].

Its treatment is an unmet need and several agents (platelet transfusions, corticosteroids, thrombopoietin analogues, thrombopoietin receptor agonists) have been studied with unsatisfactory results[3].

Corticosteroids (CSs) are commonly used, even if **low evidence** is available. The present study aims to observe **whether CSs have a positive impact on the outcome of CIT**.

References

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Methods

- **Retrospective revision** of all the cases of patients (affected by thoracic malignancies) experiencing thrombocytopenia after chemotherapy administration at our centre from 2015 to 2021.
  - Exclusion of all those cases in which it might have been caused by other causes (concurrent RT, extensive bone marrow involvement, recent introduction of other thrombocytopenia-inducing treatments, such as antibiotics, and the development of immune thrombocytopenia (ITP)).

- Identification of **two groups (CS-treated vs non-CS-treated)**
  - **Median duration of CIT** in the two subgroups, comparing them with the **unpaired t-test**.
- Identification of smaller group of patients affected by **severe CIT** (PLT count ≤ 50,000/μL)
  - Same comparison → median duration of CIT in CS- vs non-CS-treated

Results

- **174 patients**
  - 132 (75.9%): mild or moderate CIT
  - 42 (24.1%): severe CIT

	CS-treated	Non-CS-treated
All population	82 (47.1%)	92 (52.9%)
Severe CIT	32 (76.2%)	10 (23.8%)

	CS-treated	Non-CS-treated	p
Median duration of CIT	5.12±4.16 days	6.95±6.6 days	**0.03**
Median duration of severe CIT	6.78±5.66 days	7±3.13 days	*0.91*

Conclusions

With the limit of a retrospective evaluation, we observed that **CSs might have a benefit in mild-to-moderate CIT in terms of reduction in duration**, whereas they seem to be ineffective in case of severe CIT. Our data should be validated in ad hoc prospective trials to better determine the real impact of CSs on CIT.