

Piastrine: Alterazioni qualitative o quantitative

ROMIPLOSTIM FOR CHEMOTHERAPY-INDUCED THROMBOCYTOPENIA IN ADVANCED SOLID TUMORS: A SINGLE-CENTER EXPERIENCE

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Background and Aims. Chemotherapy-induced thrombocytopenia (CIT) is a common hematologic toxicity in cancer patients treated with cytotoxic agents. Platinum derivatives, taxanes, and antimetabolites are the most frequently involved drugs. CIT negatively impacts oncologic treatments by causing dose reductions and delays, potentially compromising efficacy and overall survival. TPO mimetics, such as Romiplostim, have been explored to stimulate platelet production and, although approved for immune thrombocytopenia (ITP), they may have a role in off-label management of CIT. This study conducted in our centre aimed to assess the appropriateness and effectiveness of romiplostim in patients with advanced solid tumors.

Methods. We conducted a retrospective analysis of 7 patients (4 females, 3 males) with CIT referred for hematologic evaluation between 2024 and 2026. All patients at referral had advanced-stage tumors (stage IV) and median age at cancer diagnosis was 57 years (range 37-77). They were heavily pretreated with 5 patients (72%) having received 3 or more lines of chemotherapy. Median platelet count at CIT onset was 78×10^9/L (range 23-113), without bleeding manifestations. All patients underwent bone marrow evaluation to assess infiltration. Romiplostim was finally administered just to 3 patients based on clinical judgement, initially with a median dose of 1 µg/kg (range 0.5-2), and platelet response was assessed at 7, 14, and 21 days. Adverse events were recorded.

Results. Bone marrow findings varied: 2 patients had preserved hematopoiesis, 1 patient partially preserved hematopoiesis, the others showed diffuse tumor infiltration. About the population who started Romiplostim 2 out of 3 patients (67%) responded with a significant increase in platelet counts, enabling continuation of oncologic treatment. The non-responder was a patient with extensive marrow involvement and during follow-up had a rapid progression of the disease. Median platelet count increased from 73 $\times10^9$/L (range 31-101) at baseline to 102 $\times10^9$/L at day 14 (range 14-127) and during follow-up. Treatment schedules varied (one/weekly to once every 3 weeks). About complications 1 patient experienced pulmonary embolism after trauma. Median follow-up was 2 months overall (range 1-12) and 5 months (range 1-12) among patients treated with TPO mimetics. In the latter group, 2 patients died due to disease progression, both with marrow infiltration, while 1 patient remains on treatment for both CIT and the underlying malignancy.

Conclusions. In our experience, Romiplostim appears to be an effective option for managing CIT in selected patients with advanced solid tumors, particularly in the presence of preserved bone marrow reserve; indeed its efficacy seems limited in cases of extensive marrow infiltration. Complications need to be monitored, and careful assessment of thrombotic risk is essential.