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Eltrombopag in Wound Healing Pharmacotherapy! An Artistic Repurposing?

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HIGHLIGHTS

1. The valuable role of platelets and their derivatives in regenerative medicine cannot be overstated, with benefits including increased collagen formation, bacteriostatic effects, and reduced inflammation.
2. The promising therapeutic effects of iron chelating agents, including stimulation of angiogenesis and reduction of oxidative stress, are consistent with the multiple capabilities of eltrombopag for wound repair.
3. The significant potential of the drug "eltrombopag" as a thrombopoietin receptor agonist in wound healing through combined mechanisms, including platelet enhancement, antimicrobial properties, and iron chelation, is worth considering.

Keywords: Eltrombopag, Pharmacotherapy, Wound Repair, Bacteriostatic Effects

Dear Editor

We are deeply interested in the numerous studies that have shown the beneficial effects of platelets in wound repair. Drawing on these remarkable and pioneering findings, we respectfully intend to expand research into the potential therapeutic applications of Eltrombopag in promoting wound healing. It appears that these beneficial effects of Eltrombopag have remained largely unexplored, and we are eager to bring its potential to light.

The valuable role of platelets in regenerative medicine is widely recognized. These effects are not unexpected, as platelets are involved in crucial mechanisms such as hemostasis, modulation of the endothelial-to-mesenchymal transition, and the release of cytokines and growth factors. (1, 2). Recent research has demonstrated that platelet derivatives—including platelet-rich plasma, platelet gel, platelet-rich fibrin—offer notable benefits, such as increased collagen formation, potent bacteriostatic effects, and a significant reduction in inflammatory mediators (3, 4).

We believe that the significant effects of iron-chelating agents in enhancing tissue repair should not be overlooked. Among the valuable mechanisms of iron-chelators, we highlight their role in promoting angiogenesis, preventing bacterial contamination, and

suppressing oxidative stress (5, 6); these properties make them promising candidates for wound rehabilitation.

Eltrombopag is an oral thrombopoietin receptor agonist approved for the treatment of thrombocytopenia in conditions such as immune thrombocytopenic purpura and aplastic anemia. Evidence indicates that Eltrombopag also acts as an antioxidant and a potent iron chelator (7, 8). Additionally, studies have emphasized the antimicrobial activity of Eltrombopag, particularly against *Staphylococcus sp.* Biofilm (9, 10), suggesting it could help prevent wound infections, which are a major complication delaying wound healing. However, its use is contraindicated in patients with hypersensitivity, severe liver impairment, or high thromboembolic risk (7).

Its "multi-birds, one stone" mechanism—combining platelet-boosting effects, antimicrobial properties, and iron chelation—strongly supports considering Eltrombopag as a novel therapeutic option in wound healing. Although this medical hypothesis has not yet attracted much attention, considering the body of published research highlighting the promising wound-related mechanisms of Eltrombopag, we believe that this drug deserves further investigation and consideration as a potential, novel treatment for wound healing. Your journal is pioneering innovative research in this field, and we hope that our perspective makes a meaningful contribution to the ongoing discussion.

1. Declarations

1.1 Acknowledgments

No potential conflict of interest relevant to this article was reported.

1.2 Ethical Considerations

None.

1.3 Authors' Contributions

The idea was provided by Z.N.T. The manuscript was drafted by Z.N.T. Critical revisions were performed by Z.N.T.

1.4 Conflict of Interest

There is no conflict of interest to be declared.

1.5 Fund or Financial Support

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1.6 Using Artificial Intelligence Tools (AI Tools)

The authors were not utilized AI Tools.

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