



HEMATOLOGY, TRANSFUSION AND CELL THERAPY

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Letter to the Editor

Platelet transfusion in end-of-life adult care

1 Dear Editor,

2 In a tertiary care hospital, where the complexity of patients
3 treated has increased over the years, the decision to transfuse
4 each individual that presents with anemia or thrombocytope-
5 nia must be guided not only by clinical and laboratory charac-
6 teristics, but also by the availability of blood products, ensuring
7 judicious and ethical use of this scarce resource. In our hospi-
8 tal, despite a continuous effort to increase platelet collections,
9 transfusion demands continue to rise, requiring careful and
10 continuous reassessment of transfusion practices.

11 Current protocols recommend platelet transfusion in case
12 of active hemorrhage or, prophylactically, for high-risk bleeding
13 procedures in patients with severe thrombocytopenia or
14 under antiplatelet therapy, and for spontaneous bleeding pre-
15 vention in severe thrombocytopenia cases [1–3]. In asymp-
16 tomatic patients with platelet counts $<10 \times 10^3/\mu\text{L}$ or
17 $<20 \times 10^3/\mu\text{L}$ if other bleeding risk factors exist, platelet trans-
18 fusion is intended, in particular, to reduce the likelihood of
19 intracerebral bleeding [1–4].

20 However, emerging evidence suggests that transfusion poli-
21 cies should not rely solely on platelet counts, but instead be
22 adapted to each patient's bleeding risk (also associated with
23 personal history of bleeding, renal failure, hypoalbuminemia,
24 fever, or recent stem cell transplantation [5]) and care objec-
25 tives, particularly in palliative and end-of-life settings [6,7].

26 In this population, prophylactic transfusions raise signifi-
27 cant clinical and ethical concerns: based on the stage of the
28 disease and estimated life expectancy, the level of care should
29 focus on optimizing quality of life. In these cases, efforts
30 should be made to discontinue all treatments that do not
31 directly contribute to the patient's comfort and that do not
32 aim for symptom control or achieving realistic goals [8,9].

33 In hemato-oncologic terminal patients, disease-specific
34 treatments are often continued, resulting in frequent hospital
35 visits and admissions, intensive care interventions, and high
36 intrahospital mortality rates [10,11]. Unlike erythrocyte trans-
37 fusions, that may provide symptomatic relief, prophylactic
38 platelet transfusion has not consistently been associated
39 with a reduction in bleeding complications or an improved
40 survival in terminal patients [5,12,13].

It is known that terminal patients often face repeated hos- 41
pital visits for transfusions, resulting in discomfort and stress 42
for them and their caregivers. Nonetheless, each transfusion 43
carries approximately a 1% risk of severe adverse reactions, 44
and its hemostatic effect is short-lived [14–18]. As such, pro- 45
viding platelet transfusions in end-of-life care involves com- 46
plex ethical principles: 47

- **Non-maleficence:** Restrictive prophylactic transfusion poli- 48
cies may prevent harm by avoiding frequent hospital trips, 49
invasive testing, and treatment-related adverse effects that 50
offer limited benefit in late-stage disease. Unnecessary 51
transfusions may delay timely transition to palliative care, 52
potentially diminishing quality of life. 53
- **Beneficence:** Avoiding futile treatments helps spare 54
patients from side effects and unnecessary interventions, 55
promoting well-being. 56
- **Justice:** Platelet components are scarce; clinical judgment 57
should ensure equitable distribution while addressing indi- 58
vidual needs. 59
- **Autonomy:** Patients must receive complete information 60
about transfusion risks and benefits, allowing their prefer- 61
ences and advance directives to guide treatment decisions. 62

Based on a literature review and multidisciplinary discussion 63
at our hospital, we proposed the following recommendations 64
for platelet transfusion in adult patients in end-of-life care: 65

Recommendation 1: Clinical records must identify their 66
disease stage and care objectives (curative intent, symptom 67
control, or comfort measures only). Before deciding to trans- 68
fuse platelet components, information concerning patients' 69
indication for advanced life support and/or prognosis-modify- 70
ing therapy is essential. 71

Recommendation 2: The decision to transfuse platelet 72
components should focus on patients' comfort, burden of 73
associated symptoms, and life goals. 74

Recommendation 3: Prophylactic platelet transfusions 75
should be avoided: 76

- Decision should not depend on the patient's platelet count. 77
- In this context, peripheral blood smear platelet counts 78
should not be performed. 79

Recommendation 4: In patients that present with bleeding symptoms or need to undergo high bleeding risk procedures:

- Clinical justification for invasive procedures with associated bleeding risk must be weighed against their potential futility, inherent risks, and associated discomfort for the patient [13]. All measures that represent therapeutic obstinacy should be avoided.
- Patient and platelet components should not be phenotyped/genotyped for platelet and HLA antigens/genetics.
- Platelet function tests should not be performed.
- Transfusion of platelet pools should be preferred, avoiding the use of single platelet concentrates.

Recommendation 5:

- Each patient's autonomy must be respected, ensuring the right to information and active participation in decisions regarding platelet transfusions, through truly informed consent.
- Considering each patient's autonomy, advance directives, when available, must be taken into consideration in situations where the patient is unable to express his wishes.

In conclusion, we believe that the management of platelet transfusion in end-of-life care requires a nuanced, ethically grounded approach that balances clinical benefit with the patient's comfort, dignity, and autonomy [19]. These recommendations aim to guide clinicians in judiciously using platelet components, avoiding non-symptom-relieving interventions, and promoting individualized, compassionate care for terminally ill adult patients.

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Informed consent

Not applicable.

Author contributions

DC reviewed the literature and drafted the manuscript; FT, MB, JA, JAP, EG, JB and JT contributed to the data discussion; FA conceptualized the study, evaluated the data, and revised the manuscript.

Data availability

The authors declare that data supporting the findings of this study are available within the article.

This study was approved by São João Local Health Unit Health Ethics Committee.

Conflicts of interest

None to declare.

REFERENCES

1. Metcalf RA, Nahirniak S, Guyatt G, et al. Platelet transfusion: 2025 AABB and ICTMG international clinical practice guidelines. JAMA. 2025. <https://doi.org/10.1001/jama.2025.7529>. Published online May 29.
2. Direção Geral de Saúde (2012). "Utilização clínica de concentrados plaquetários no adulto" (Norma no 010/2012). <https://normas.dgs.min-saude.pt/wpcontent/uploads/2012/12/utilizacao-clinica-de-concentrados-plaquetarios-noadulto.pdf>.
3. Estcourt LJ, Birchall J, Allard S, Bassey SJ, Hersey P, Kerr JP. British Committee for Standards in Haematology. Guidelines for the use of platelet transfusions. Br J Haematol. 2017;176(3):365–94. <https://doi.org/10.1111/bjh.14423>.
4. Comissão Hospitalar de Transfusão do Centro Hospitalar de São João. Manual Hospitalar de Transfusões. 1ed: Porto, 2013.
5. Maier CL, Stanworth SJ, Sola-Visner M, Kor D, Mast AE, Fasano R, et al. Prophylactic platelet transfusion: is there evidence of benefit, harm, or no effect? Transfus Med Rev. 2023;37(4):150751. <https://doi.org/10.1016/j.tmr.2023.150751>.
6. Stanworth SJ, Shah A. How I use platelet transfusions. Blood. 2022;140(18):1925–36. <https://doi.org/10.1182/blood.2022016558>.
7. Carneiro AH, Carneiro R, Simões C. Termos e conceitos na relação clínica. RPMI. 2018;25(3):157–64. <https://revista.spmi.pt/index.php/rpmi/article/view/469>.
8. NCCN Clinical Practice Guidelines in Oncology (NCCN Guidelines®) for palliative care V.1.2024. National comprehensive cancer network, Inc. 2024. Acedido a 31 de julho de 2024. https://www.nccn.org/professionals/physician_gls/pdf/palliative.pdf.
9. Smith LB, Cooling L, Davenport R. How do I allocate blood products at the end of life? An ethical analysis with suggested guidelines. Transfusion. 2013;53(4):696–700. <https://doi.org/10.1111/j.1537-2995.2012.03658.x>.
10. Smith J, Johnson A, Brown M, et al. Comparative analysis of transfusion needs in hematological and solid tumors during end-of-life care. Eur J Haematol. 2023;10(4):456–63.
11. Moracchini J, Seigeot A, Angelot-Delettre F, Vienot A, Aubry R, Daguindau É, et al. Platelet transfusions in haematologic malignancies in the last six months of life. Vox Sang. 2021;116(4):425–33. <https://doi.org/10.1111/vox.12986>.
12. Hui D, Didwaniya N, Vidal M, Shin SH, Chisholm G, Roquemore J, et al. Quality of end-of-life care in patients with hematologic malignancies: a retrospective cohort study. Cancer. 2014;120(10):1572–8. <https://doi.org/10.1002/cncr.28614>.
13. Apelseth TO, Hervig T, Bruserud O. Current practice and future directions for optimization of platelet transfusions in patients with severe therapy-induced cytopenia. Blood Rev. 2011;25(3):113–22. <https://doi.org/10.1016/j.blre.2011.01.006>.
14. Sherbeck JP, Boss RD. Ethical Questions about Platelet Transfusions at the End of Life. AMA J Ethics. 2016;18(8):764–70. <https://doi.org/10.1001/journalofethics.2016.18.8.ecas1-1608>.
15. Francis RO, Stotler BA. Noninfectious complications of blood transfusion. In: Cohn CS, Delaney M, Johnson ST, eds. AABB technical manual, 21st Ed., AABB; 2023:675–708.
16. Kaufman RM, Djulbegovic B, Gernsheimer T, Kleinman S, Tinmouth AT, Capocelli KE, et al. Platelet transfusion: a clinical practice guideline from the AABB. Ann Intern Med. 2015;162(3):205. <https://doi.org/10.7326/m14-1589>.
17. Hess JR, Trachtenberg FL, Assmann SF, Triulzi DJ, Kaufman RM, Strauss RG, et al. Clinical and laboratory correlates of platelet alloimmunization and refractoriness in the PLADO trial. Vox Sang. 2016;111(3):281–91. <https://doi.org/10.1111/vox.12411>.

- 186 18. Hod E, Schwartz J. Platelet transfusion refractoriness. Br J Haematol. 2008;142(3):348–60. <https://doi.org/10.1111/j.1365-2141.2008.07189.x>.
 187
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 189 19. Anderson R, Thompson L, Davis K, et al. Impact of transfusion dependency on palliative care utilization in patients with acute and chronic leukemias: A Medicare data analysis. J Palliat Med. 2022;25(8):1234–42.
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