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Opportunities for improving platelet transfusion practice: A large retrospective audit across 22 hospitals

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Platelet transfusion is still a very common practice in modern hospital medicine, particularly in haematological, critical, and surgical patients. However, there is increasing evidence that many platelet transfusions are performed with no clear clinical benefit, and that they could even be associated to complications. The work by Ryan et al., published in the British Journal of Haematology in 2026, provides one of the largest audits conducted to date on platelet transfusion practice, as well as highly relevant data for Patient Blood Management programmes.

It is a retrospective, multicentre study analysing transfusion practice in 22 hospitals during a five-year period (2017–2022). Over 821,000 hospital admissions were included and over 56,000 platelet transfusion events were identified, which makes this work one of the largest observational analyses on this topic. The authors assessed whether transfusions met the recommendations in clinical guidelines or not, based on the clinical context, setting transfusion thresholds based on prophylaxis, invasive procedures, bleeding, anticoagulation, heart surgery, ECMO, and immune thrombocytopenias.

The most relevant finding in the study is that approximately 23% of platelet transfusions did not conform with the guidelines, i.e, they were potentially unnecessary. Contexts with a higher amount of inappropriate transfusion were primary prophylaxis, heart surgery, invasive procedures, patients on antiplatelet treatment and immune thrombocytopenias, such as ITP, HIT and TTP. Moreover, a wide variability was observed between hospitals and medical specialities, both in terms of transfusion thresholds and guideline compliance.

This study confirms something many clinicians suspected—platelet transfusion is still too liberal. There are probably multiple reasons for this, including fear of bleeding, clinical inertia, legacy transfusion culture, surgical pressure, difficulty to interpret platelet function and a lack of audit and feedback systems. The finding that non-conforming transfusions were more frequent at the beginning of the hospital admission is particularly interesting, and it suggests that the first transfusion is the most important one from the perspective of transfusion quality.

From the standpoint of Patient Blood Management, this work comes with very significant implications. If roughly one in every four transfusions is unnecessary, we have a huge opportunity to improve patient safety, reduce reactions to transfusions, decrease costs, and preserve resources. Platelets have a short half-life and limited availability, and so they should be used with extreme care.

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Heart surgery appears as one of the scenarios with the most overtransfusion. This is possibly due to the presence of antiaggregation, extracorporeal circulation, and alterations of the platelet function. In this context, viscoelastic tests and platelet function tests may help making more rational decisions than those solely based on platelet count.

Among the strategies proposed by the authors to improve transfusion practice, we can highlight the implementation of alerts in the electronic clinical history when the platelet count is above the recommended threshold, a blood bank review before releasing platelets in certain cases, the performance of regular audits, and the comparison of results between hospitals, as a tool for quality improvement.

The study presents significant strengths, such as the large sample size, its multicentre nature, and the analysis of real-world clinical practice. However, it also presents the limitations typical of retrospective studies, such as the dependence on electronic records, the difficulty to retrospectively define bleeding, and the lack of data on platelet function or viscoelasticity.

In conclusion, this article conveys a very clear message—the problem with unnecessary transfusion is not just about red blood cells, but also about platelets, and probably to a larger extent. For years we have learnt to be restrictive with haemoglobin, but we have not yet internalised a restrictive strategy with platelets. The optimization of platelet transfusion will probably be one of the pillars of Patient Blood Management for the next few years.

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Optimizing Coagulopathy Management in Postpartum Hemorrhage : Preventive and Reversal Strategies for Resource-Limited Settings

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Obstetric hemorrhage (PPH) is still one of the main causes for maternal morbidity and mortality. It is estimated that, in 2023, over 260,000 women died because of it.

However, mortality figures are very different between developed countries and nations with less healthcare resources (around 92% of deaths in the peripartum period occurred in the latter). The impact of diagnostic and PPH control measures was also very different.

In fact, it was determined that between 2000 and 2023, a reduction of 40% in maternal mortality was achieved in developed countries, but not so in the rest of the world.

Aspects such as the coexistence of coagulopathies (both hereditary and related to PPH evolution), malaria infection, HIV infection, or other complex comorbidities, together with limited access to healthcare, both in the antenatal and postpartum period, make it harder for figures to decrease in countries with less resources.

The article delves into the implementation of some of these measures that may be easier to apply (mostly an improved education to get the earliest possible diagnosis, particularly from the identification of the first early warning signs) in two geographical areas other than Africa. It compares the results of implementing the recommendations from the most recently published clinical guidelines in South Africa, where a decline in maternal mortality has been observed, along with an improvement in nutrition during pregnancy, stratification of PHH risks, and increased availability of laboratory tests and follow-up care throughout the peripartum period. Conversely, it describes the significant challenges involved in diagnosis improvement and management in Guinea, one of the countries with the highest peripartum mortality in the world.

The need to improve all aspects of education and early diagnosis of warning signs is highlighted. An example of what could be achieved would be the results obtained in countries such as India or Tanzania, where this decline in mortality has been observed.

One of the initiatives that may achieve better results is precisely the educational aspect on early diagnosis of postpartum haemorrhage. The introduction of the article refers to the various definitions of postpartum haemorrhage; however, in general, emphasis should be placed on warning signs of its onset, since an early intervention upon the identification of warning signs is considered to be one of the reasons for the reduction in maternal mortality in countries such as India or Tanzania.

The discussion section reviews the aspects that pose a greater challenge to the implementation of all these measures and the achievement of the final goal, which is the reduction of maternal mortality. It is emphasized that one the key aspects related to the difficulty to reduce maternal mortality is the limited access to healthcare resources in many of these countries where mortality rates have not decreased.

However, emphasis is also placed on the need for the widespread adoption of measures such as the use of tranexamic acid, appropriate uterine massage and, once again, the implementation of locally adapted standardised protocols. In these protocols, simple, structured screening tools—based on prenatal history, a history of heavy menstrual bleeding, HIV and malaria serostatus, and previous obstetric outcomes—may help achieve the final goal, which is the universal reduction of maternal mortality.

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The thrombelastometry parameter CT_{EXTEM} as an independent risk factor for mortality in bleeding patients

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Severe haemorrhage causes **alterations in the extrinsic pathway** of coagulation, which may be detected using **ROTEM**, by measuring the ***clotting time*** **(CT_{EXTEM}),** or time it takes for the clot to start forming. In order to prove this, Bomberg et al. conducted the study commented below.

Although this was a retrospective, single-centre study (Saarland Hospital – Germany), it followed the right methodology, a correct data standardization, and a very appropriate statistical analysis.

The **sample size** is large (n=2035 patients), but patients were distributed and analysed in three independent groups: **Group 1** (n=1103): who underwent coronary revascularization surgery **(CPB)**; **Group 2** (n=206): **trauma patients**, and **Group 3** (n=1076): classified as **medical** bleeding, but including cirrhotic patients as well as general surgery or neurosurgery patients. Therefore, the most homogeneous group, with an optimal sample size, is Group 1 (CPB), and so the most reliable conclusions will be those emerging from its analysis.

The **goals** of the study and **statistical analysis** applied were:

1. **Correlating CT_{EXTEM} with raw mortality after 30 days.**

2. **Finding the cut-off point that best predicts that mortality.**

These two goals were achieved by analysing the groups using C-statistic and the graphic representation of ROC curves. C-statistic represents the odds that the model assigns a higher score to an individual who experiences the event than to someone who does not. Its value ranges between 0.5 (pure chance) and 1 (perfect discrimination).

3. **Correlating CT_{EXTEM} with 30-day adjusted mortality (adjusted HR).**

This analysis was carried out using comorbidity-adjusted **Cox models**, baseline characteristics and other ROTEM parameters.

4. **Assessing the effect of administering prothrombin complex concentrate** (PCC) on mortality, pairing individuals with similar chances of receiving PCC, regardless of the group, and using the *propensity score* analysis.

The **results** are summarized in the table below:

	Group 1 CPB (n=753)	Group 2 Trauma (n=206)	Group 3 Medical (n=1076)
C-statistic for 30-day mortality	0.62	0.65	0.63
Best 30-day mortality cut-off point	110 seconds	98 seconds	99 seconds
30-day mortality based on CT_{EXTEM} cut-off point	$110 < CT_{EXTEM} \geq 110$ 9% vs 26% (p<0.001)	$98 < CT_{EXTEM} \geq 98$ 11% vs 41% (p<0.001)	$99 < CT_{EXTEM} \geq 99$ 22% vs 41% (p<0.001)
30-day mortality adjusted HR	2.5	3.9	1.8
30-day mortality based on whether the patient has received PCC or not	pns		

Discussion - Conclusions

A **0.62–0.65 C-statistic** indicates that the **CT_{EXTEM}** parameter has a **moderate predictive power**, but **far from excellent**, to discriminate between patients who will die and those who will survive after 30 days.

The most frequently used **transfusion algorithms**, such as Görlinger's or Weber's, recommend administering PCC in case of severe haemorrhages, after having corrected fibrinogen, when **CT_{EXTEM}** > 80 seconds. Studies such as this one may lead to reconsidering that value and suggesting an adjustment based on the type of patient to which it is applied. Thus, Bomberg et al., authors of the article, adjusted their transfusion algorithm to the new findings, suggesting PCC administration when **CT_{EXTEM}** >100 seconds.

Furthermore, the authors concluded that using PCC was safe in cases of massive haemorrhage, since 30-day mortality did not increase. However, it could also be argued that PCC administration neither did decrease it, since, after *propensity score matching,* treated and untreated patients were comparable.