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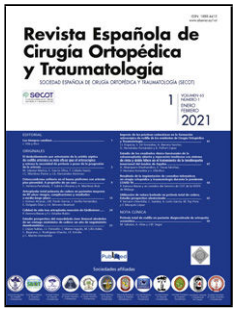

[Artículo traducido] Umbrales de hemoglobina: comentarios sobre pruebas pretransfusionales selectivas en artroplastia total de cadera

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Letter to the Editor

[Artículo traducido] Umbrales de hemoglobina: comentarios sobre pruebas pretransfusionales selectivas en artroplastia total de cadera

[Translated article] Haemoglobin thresholds: Comments on selective pre-transfusion testing in total hip arthroplasty

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Dear Editor,

We read with interest the article by López et al.: "Is preoperative cross-matching necessary for all patients undergoing primary total hip replacement for coxarthrosis? A retrospective study."[1] We would like to congratulate the authors on their study, which provides a valuable analysis of transfusion practices, risk factors, and the economic impact of pre-transfusion testing in primary total hip arthroplasty (THA). Their transfusion rate of 7.3%, the identification of preoperative haemoglobin (Hb) <13 g/dL as a risk factor, and the cost estimate for routine blood typing and cross-matching contribute significantly to the debate on optimising patient blood management and the use of institutional resources.

However, we would like to offer some considerations, comparing their results with two of our previous studies, one of which was cited in their article, in order to contextualise the transfusion thresholds.

In our THA[2] cohort, the mean Hb drop was 3.3 g/dL (SD 1.4). In transfused patients, the mean postoperative Hb was 8.4 g/dL (SD 1.2) and the mean drop was 4.4 g/dL (SD 1.8). These values are very similar to those reported by the authors: a mean drop of 3.27 g/dL, postoperative Hb of 8.1 g/dL in transfused patients, and a mean drop of 4.3 g/dL in this subgroup. The mean preoperative haemoglobin (Hb) level of patients requiring transfusion in both studies was 12.4 g/dL. This similarity, despite the different centres involved, reinforces the consistency of the findings in both publications.

However, some disparity is present. In our multivariate analysis, a preoperative Hb level <12 g/dL was associated with a higher risk of transfusion (OR 5.1; 95% CI: 1.21–14.26; p = .024), while an Hb level <13 g/dL was not (OR 1.5; 95% CI: 0.51–4.15; p = .47). Consequently, we recommend limiting pre-transfusion testing to patients with a preoperative Hb level <12 g/dL. In the study by López et al., the discussion notes that, with the exception of two cases, all patients requiring transfusion had Hb <13 g/dL, and they conclude that a preoperative Hb <13 g/dL is a risk factor. However, Table 1—which appears to list the transfused patients—shows seven patients with preoperative Hb >13 g/dL. Of these, all but two had Hb <14 g/dL. Furthermore, as mentioned previously, analysis of the table yields a mean preoperative Hb of 12.4 g/dL (range 10–14.3). Even disregarding this last point, although the finding is valid for the study itself, the body of external evidence suggests that 13 g/dL may be a relatively high threshold for a routine pre-transfusion testing policy. In our meta-analysis, the mean preoperative haemoglobin (Hb) in transfused patients was 11.9 g/dL (95% CI: 10.9–12.9; p < .001). Accordingly, we recommend ordering pre-transfusion testing only for patients with preoperative Hb < 12 g/dL treated with unilateral primary THA. Other studies converge toward similar or slightly lower targets for these pre-transfusion tests: Peel et al. suggested 11.5 g/dL, and Christopher et al. [5] proposed < 11 g/dL for more restrictive selection.

Although there are arguments against the need for pre-transfusion testing in all patients treated with primary THA, eliminating it entirely would also be a mistake.[2-5] The main limitation of the Maximum Surgical Blood Order Schedule (MSBOS) model is its inability to stratify preoperative requests according to patient risk factors.[2,3] It is important to emphasize that studies agree that preoperative haemoglobin (Hb) levels differ significantly between transfused and non-transfused patients, supporting its use as a selection criterion. [2-5] In our case, we advocate considering preoperative Hb <12 g/dL as the threshold for ordering pre-transfusion tests in unilateral primary total hip arthroplasty (THA). This approach optimises patient care, rationalises resources, and promotes the sustainability of the healthcare system.

We would like to thank the authors for their contribution and encourage local audits and ongoing dialogue to align clinical practice with evidence-based and cost-effectiveness thresholds.

Level of evidence

Level of evidence IV.

Ethical considerations

Since this is a letter to the editor and does not involve the use of human subjects or human experimentation, ethical considerations related to informed consent, ethical procedures, or human subject privacy rights do not apply. However, we guarantee that the content of this letter is written with integrity and in accordance with the journal's editorial principles.

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Conflict of interests

The authors have no conflict of interests to declare.

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