

Correspondence on 'Risk of venous thromboembolism in knee, hip and hand osteoarthritis: a general population-based cohort study'

We found the article by Zeng *et al* extremely interesting.¹ They reported that knee or hip osteoarthritis (OA), but not hand OA, was associated with an increased risk of venous thromboembolism (VTE). This population-based cohort study used datasets from the Health Improvement Network, from January 2000 to December 2017, to compare the incidence of VTE between joint and non-joint replacements in OA patients and non-OA controls using matching methods by age, sex, entry time and body mass index. The author concluded that OA was associated with an increased risk for VTE in knee or hip OA patients, which was partially mediated through knee or hip replacement. Although the findings of this study may be significant for clinicians, some issues remain unaddressed in this regard. Thus, we would like to raise the following points.

First, we know that immobilisation is crucial for VTE to occur, and the risk of VTE will increase with prolonged immobility, especially in elderly individuals with an active platelet reactivity and higher plasma levels of coagulation factors than in young people.² The immobilisation duration is a strong independent predictor of post-operative VTE.^{3,4} Recent reports have emphasised the importance of early mobilisation in the prevention of VTE for patients undergoing hip or knee replacement.^{5,6} However, the duration of immobilisation was not described in the baseline characteristics of these two groups. Therefore, the conclusions may not be rigorous without considering these vital factors.

Second, VTE rates are high for both surgical and non-surgical hospitalised patients without prophylaxis. The incidence of VTE varies in both surgical and non-surgical patients who are admitted in US hospitals for specific procedures each year: venous thrombotic events may occur in up to 20% of surgical patients and 16% of non-surgical patients without prophylaxis.^{7,8} For example, several previous studies in major surgical patients have demonstrated that extended thromboprophylaxis significantly reduces postdischarge VTE when compared with short-term therapy.^{9–11} Furthermore, extended thromboprophylaxis therapy has been established to be associated with a lower risk for postdischarge VTE in patients with non-major surgery.¹² However, the percentages of both surgical and non-surgical hospitalised patients without prophylaxis were not described in the baseline characteristics of these two groups, which might have nullified some of the study-related results.

Finally, the Caprini Risk Score (CRS) is a validated tool created to stratify the VTE risk in medical inpatients effectively and identify surgical patients with a high risk of VTE occurrence.^{13,14} The use of risk assessment tools has also been well demonstrated to empower physicians to improve the VTE prevention with measured mortality benefit. This article conducted three matched cohort studies to compare the risk of VTE among patients with incident knee, hip or hand OA alone, matched by same age, sex, index date and body mass index. As for clinicians, we are more concerned about forming comparable groups with a priori risk for VTE and magnifying hidden confounding variables. We suggest that non-OA patients should be CRS matched to draw accurate or reliable conclusions.

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Correction notice This article has been corrected since it published first. The provenance and peer review statement has been included.

Acknowledgements We thank Chung Shan Medical University Hospital for expert technical assistance.

Contributors All authors reviewed the draft and approved the submission of the manuscript.

Funding The authors have not declared a specific grant for this research from any funding agency in the public, commercial or not-for-profit sectors.

Competing interests None declared.

Patient and public involvement Patients and/or the public were not involved in the design, or conduct, or reporting, or dissemination plans of this research.

Patient consent for publication Not required.

Provenance and peer review Not commissioned; internally peer reviewed.

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T-KL and L-FP contributed equally.



To cite Lin T-K, Pan L-F, Jong G-P. *Ann Rheum Dis* 2023;**82**:e98.

Received 16 December 2020

Accepted 18 December 2020

Published Online First 6 January 2021



► <https://doi.org/10.1136/annrheumdis-2020-219747>

Ann Rheum Dis 2023;**82**:e98. doi:10.1136/annrheumdis-2020-219733

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