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Correspondence re. "Puelacher C, Bollen Pinto B, Mills NL, et al. Expert consensus on peri-operative myocardial injury screening in noncardiac surgery: A literature review. *Eur J Anaesthesiol.* Jun 1 2021;38(6):600-608."

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Dear Editor,

We commend Puelacher et al.,¹ on an earnest attempt to summarise and find solutions to the ongoing debate regarding peri-operative myocardial injury (PMI). In addition to the points raised in the commentary², we would like to make a few further comments.

Firstly, although there is a caveat in the text of the article, this paper is presented as an expert consensus. Whilst we recognise that the authors are indeed experts in the field, we are concerned that the term “expert consensus” is a little misleading in this case. Guidelines published in 2019³ highlight the requirement for extensive peer and organisational review prior to publication of an expert consensus. As the accompanying invited commentary suggests, this article would be better considered an opinion piece. Arguably, the subject matter itself does not lend itself yet to an expert consensus as there are still too many questions needing to be answered regarding the definition and management of PMI before practical guidelines for screening programmes can be produced or advocated. Nonetheless, the authors have considered many aspects of the PMI conundrum and present an interesting and considered summary of the knowledge gaps and potential solutions.

Secondly, although there is debate within the paper about the identification and measurement of PMI, the authors do not reach a conclusion regarding the definition of PMI, and indeed within the article the terms type 2 myocardial infarction (MI) and PMI are used interchangeably. This is highlighted by examination of the flowchart (Figure 1) where type 2 MI and PMI are treated as one entity. The 4th Universal definition of MI⁴ is clear that myocardial injury occurs where there is troponin rise/change **without** signs or symptoms of ischaemia. It is this absence of ischaemia that differentiates myocardial injury from infarction, regardless of cause. We appreciate that in this paper, evidence is presented showing PMI to have similar morbidity and mortality to post-operative myocardial infarction, highlighting the importance of this outcome. We need to ensure however that, via a standardised definition of PMI, we are measuring the same variable and that PMI is explicitly identified as an entity distinct from ischaemia and infarction.

In debating the need for a common definition of PMI we are surprised that neither the authors nor commentators mention the Standardised Endpoints in Peri-operative Medicine – Core Outcome Measures in Peri-operative and Anaesthetic Care (StEP-COMPAC) initiative which aims to standardise and clearly define a set group of outcomes to facilitate comparison between studies. This expert consensus have recommended the 4th Universal definition of MI as having higher reliability, feasibility and validity than MINS⁵, after performing a systematic review followed by a three-stage Delphi process consulting 55 clinicians worldwide.

Thirdly, the flowchart (Figure 1) and examples of screening programmes in the paper are noteworthy as an example of what can be achieved. We would be interested to know which interventions the authors implement in the presence of PMI and the impact of the screening programmes on patient outcomes. Another important topic of conversation is how PMI is communicated to patients, considering both the definition and management are currently not standardised. Equally interesting to know would be how implementing screening programmes such as these have affected Cardiology/Internal Medicine workload. We note in Basel-PMI⁶ extra cardiologists were recruited to manage the additional referrals measuring post-operative troponin levels brought.

Ultimately, as the authors acknowledge, there is plenty more work to be done in understanding PMI and preventing and managing it. The authors should be applauded for concisely highlighting the knowledge gaps and further work needed to investigate this important outcome.

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