

A multicenter observational analysis of patient clinician and institution-level variation in inotrope use for cardiac surgery

Nida Fatima

Fatima N. A multicenter observational analysis of patient, clinician and institution-level variation in inotrope use for cardiac surgery. *Anesthesiol Case Rep.* 2023; 6(3); 1

ABSTRACT

The dangers and advantages of inotropic medications used during cardiac surgery are controversial, and it is still unknown how clinical practices vary. The authors thus tried to quantify the contributions of the hospital, anesthesiologist, and patient to variance in inotrope usage. Half of the patients in a nationwide, multicenter cohort of heart

operations at university and community hospitals received intraoperative inotrope infusions. Along with patient-level characteristics, variations in inotrope usage were explained by clinician- and institution-level variables. In order to determine if cardiac surgery outcomes may be improved and whether unnecessary variance can be decreased, additional prospective studies of patient-centered inotrope usage are recommended in light of the findings that reveal the amount of cardiac anesthesiology practice variation.

Key Words: *Cardiac surgery; Patient*

INTRODUCTION

We found significant variation in the intraoperative inotrope use across clinicians and institutions in this multicenter study of cardiac surgeries across 29 academic and community hospitals in the United States. This variation was largely attributable to the attending anesthesiologist clinician and institution rather than just the patient or surgery. These complex and multifactorial factors may be explained by clinician training, institutional or regional protocols, cultural dogma, resource availability, the environment in which healthcare is provided, or patient factors that cluster by clinician or institution but are unmeasured and thus appear to be unrelated to other factors. The benefits of multicenter over single-center analyses are still stressed, though, as they better capture the diversity of practices and more precisely reflect patterns of clinical care delivery. This is because our results were similar to those of other studies of cardiac anesthesiology practice patterns. Historical assessments of high-risk cardiac subpopulations were consistent with the vast diversity in inotrope usage in the present, diverse cardiac surgery population analyzed. The same was true for variables independently linked to inotrope usage, with the exception of medical school affiliation (i.e., teaching hospital), which stood out as the biggest predictor in our analyses. Although the lack of correlation between institutional case

volume and inotrope usage was in line with earlier findings¹¹, our unexpected finding that institutions connected to a medical school were significantly and independently associated with inotrope usage calls for further investigation through qualitative studies of clinician attitudes and institutional protocols regarding inotrope use. The greater variety of cases in our study, potential greater levels of recent changes to historical practice patterns at medical school-affiliated institutions compared to community hospitals, and/or unmeasured confounders that varied between cardiac surgical cases at medical school-affiliated institutions compared to community hospitals are all possible explanations for this association. Further explanation of such findings remained outside the purview of this study, though it may have indicated a more patient-centered approach to inotrope use among higher-volume anesthesiologists. There is a correlation between lower clinician-level variance in inotrope use and higher attending anesthesiologist case volume.

Ramswaroop University, Lucknow, India

Correspondence: Nida Fatima, Ramswaroop University, Lucknow, India, E-mail id: resanes12@hotmail.com

Received: 14-May-2023, Manuscript No. pulacr-23-6638; Editor assigned: 19-May-2023, PreQC No: pulacr-23-6638 (PQ); Reviewed: 30-May-2023, QC No. pulacr-23-6638(Q); Revised: 03-June-2023, Manuscript No. pulacr-23-6638(R); Published: 11-June-2023, DOI:10.3037532/2591-7641.2022.6(3).1-1



This open-access article is distributed under the terms of the Creative Commons Attribution Non-Commercial License (CC BY-NC) (<http://creativecommons.org/licenses/by-nc/4.0/>), which permits reuse, distribution and reproduction of the article, provided that the original work is properly cited and the reuse is restricted to noncommercial purposes. For commercial reuse, contact reprints@pulsus.com