What’s in a Name: Introduction to the BART Index

To the Editor:

Chronic obstructive pulmonary disease (COPD) is a disease that transcends specialties: internal medicine, pulmonary medicine, thoracic surgery, radiology, and so on. Its pathophysiology and management are taught in medical schools around the globe. The body mass index, airflow obstruction, dyspnea, and exercise capacity (BODE) index is a well-known, widely used mortality predictor in the score. A transition to the BART index would maintain this recollection: each letter represents a component that is accounted for in the title.

One of the advantages of the BODE index is the ease of its reollection: each letter represents a component that is accounted for in the score. A transition to the BART index would maintain this simplicity: body mass index, airway obstruction (measured by FEV$_1$), respiratory symptoms (measured by Modified Medical Research Council Dyspnea Scale), and treading (measured by 6MWT). It even may be easier to recall than the BODE index, as the letters that represent FEV$_1$, airway obstruction vs. obstruction) and the 6MWT (treading vs. exercise) are more specific. Of course, we do not suggest any changes to the actual calculations themselves.

In summary, we believe this transition to the BART index from the BODE index maintains the spirit, essence, and science behind this important, ubiquitous calculator within thoracic medicine. This change will add to the legacy of the developer by honoring his name. In medicine, we have had a history of changing eponyms as a result of their dark pasts (4). It would be refreshing to make a change to reflect on brilliant success and focus on celebration.

Author disclosures are available with the text of this letter at www.atsjournals.org.

Atul C. Mehta, M.D.*
Sameer K. Avasarala, M.D.
Cleveland Clinic
Cleveland, Ohio

Gerard J. Criner, M.D.†
Temple University
Philadelphia, Pennsylvania

---

4. McConnell R, Barrington-Trinis JL, Wang K, Urman R, Hong H, Unger J, et al. Electronic cigarette use and respiratory symptoms in adolescents. Am J Respir Crit Care Med 2017;195:1043–1049.

5. Palamidas ATS, Katsaounou P, Vakali S, Gennimata S, Kaitsakas G, Gratziou C, et al. Acute effects of short-term use of e-cigarettes on airways physiology and respiratory symptoms in smokers with and without airways obstructive diseases and in healthy non-smokers. Tobacco Cessation & Prevention 2017;3:1–8.

6. Wills TA, Pagano I, Williams RJ, Tam EK. E-cigarette use and respiratory disorder in an adult sample. Drug Alcohol Depend 2019; 194:363–370.

7. Yao T, Max W, Sung HY, Glantz SA, Goldberg RL, Wang JB, et al. Relationship between spending on electronic cigarettes, 30-day use, and disease symptoms among current adult cigarette smokers in the U.S. PLoS One 2017;12:e0187399.

8. Bhatta DN, Glantz SA. Association of e-cigarette use with respiratory disease among adults: a longitudinal analysis. Am J Prev Med 2020; 58:182–190.

9. Centers for Disease Control and Prevention. Behavioral risk factor surveillance system: complex sampling weight and preparing 2017 BRFSS module data for analysis. Atlanta, GA: Centers for Disease Control and Prevention; 2018 [accessed 2020 Mar 15]. Available from: https://www.cdc.gov/brfss/annual_data/2017/pdf/Complex-Simple-Weights-Prep-Module-Data-Analysis-2017-508.pdf.

10. Centers for Disease Control and Prevention. Behavioral risk factor surveillance system: 2017 summary data quality report. Atlanta, GA: Centers for Disease Control and Prevention; 2018 [accessed 2020 Mar 15]. Available from: https://www.cdc.gov/brfss/annual_data/2017/pdf/2017-sdqr-508.pdf.

Copyright © 2020 by the American Thoracic Society
CORRESPONDENCE

ORCID ID: 0000-0003-1123-1704 (S.K.A.).

*Corresponding author (e-mail: mehta11@ccf.org).

2G.J.C. is Associate Editor of AJRCCM. His participation complies with American Thoracic Society requirements for recusal from review and decisions for authored works.

References

1. Celli BR, Cote CG, Marin JM, Casanova C, Montes de Oca M, Mendez RA, et al. The body-mass index, airflow obstruction, dyspnea, and exercise capacity index in chronic obstructive pulmonary disease. *N Engl J Med* 2004;350:1005–1012.

2. Bloom CI, Ricciardi F, Smeeth L, Stone P, Quint JK. Predicting COPD 1–3 year mortality using prognostic predictors routinely measured in primary care. *BMJ Med* 2019;17:73.

3. Criner GJ. Giants in chest medicine: Bartolome Celli, MD, FCCP. *Chest* 2016;150:995–997.

4. Woywodt A, Matteson E. Should eponyms be abandoned? Yes. *BMJ* 2007;335:424.

Copyright © 2020 by the American Thoracic Society

Author disclosures are available with the text of this letter at www.atsjournals.org.

Gildas Gueret, M.D., Ph.D.*
Pascale Le Mauguet, M.D.
Renaud Fabre, M.D.
Centre Hospitalier de Cornouaille
Quimper, France

Marc Laffon, M.D., Ph.D.
Centre Hospitalier Régional Universitaire Clocheville
Tours, France

ORCID ID: 0000-0002-4423-7582 (G.G.).

*Corresponding author (e-mail: gildas.gueret@gmail.com).

Should We Avoid Saline in Sepsis? It’s Probably Too Early to Definitively Conclude

To the Editor:

We read with great interest the study entitled “Balanced Crystalloids versus Saline in Sepsis: A Secondary Analysis of the SMART Clinical Trial” (1). This study shows an increase in mortality in patients with sepsis receiving saline compared with balanced crystalloids. An increase in major adverse kidney events within 30 days (MAKE30) has already been found in a subgroup analysis of patients with sepsis (2, 3).

However, we have some remarks to make. This study was not planned in the SMART (Isotonic Solutions and Major Adverse Renal Events Trial) study protocol. The primary outcome of this study was death from any cause in patients with sepsis in the medical ICU. Moreover, the clinical trial number cited by the authors (NCT02444988) corresponds to “Isotonic Solutions and Major Adverse Renal Events Trial in the Medical Intensive Care Unit (SMART-MED),” in which the primary outcome measure was MAKE30 in all medical ICU patients, not only in patients with sepsis; 30-day in-hospital mortality was a secondary outcome.

Some patients received nonassigned intravenous fluids before or after enrollment, and the volume of crystalloids administered was higher in the balanced crystalloids group at Days 3 and 7, as previously found in another study (4). The amount of saline seems to be associated with an increase in MAKE30, particularly in patients with sepsis (2, 3). In animal studies, chloride-containing solutions led to renal vasoconstriction and a decrease in the glomerular filtration rate. In their analysis, did the authors take into account the amount of crystalloids (particularly saline) received before ICU admission in both groups? Did the authors find a relationship between the volume of chloride or saline administered and the incidence of kidney injuries, as suggested in different studies (2, 4)?

Several vasopressors were administered to the patients and converted to norepinephrine equivalents. However, these drugs are not strictly equivalent, particularly with regard to inotropism, heart rate, severe arrhythmias, and perhaps lactate concentration (5, 6). Did the patients in both groups receive the same vasopressors?

We congratulate the authors for this interesting study, which provides important information about crystalloids in sepsis. These results should be confirmed by a randomized study.

Copyright © 2020 by the American Thoracic Society

References

1. Brown RM, Wang L, Coston TD, Krishnan NI, Casey JD, Wanderer JP, et al. Balanced crystalloids versus saline in sepsis: a secondary analysis of the SMART clinical trial. *Am J Respir Crit Care Med* 2019;200:1487–1495.

2. Semler MW, Self WH, Wanderer JP, Ehrenfeld JM, Wang L, Byrne DW, et al.; SMART Investigators and the Pragmatic Critical Care Research Group. Balanced crystalloids versus saline in critically ill adults. *N Engl J Med* 2018;378:829–839.

3. Semler MW, Wanderer JP, Ehrenfeld JM, Stollings JL, Self WH, Siew ED, et al.; SALT Investigators and the Pragmatic Critical Care Research Group. Balanced crystalloids versus saline in the intensive care unit: the SALT randomized trial. *Am J Respir Crit Care Med* 2017;195:1362–1372.

4. Yunos NM, Bellomo R, Hegarty C, Story D, Ho L, Bailey M. Association between a chloride-liberal vs chloride-restrictive intravenous fluid administration strategy and kidney injury in critically ill adults. *JAMA* 2012;308:1566–1572.

5. Myburgh JA, Higgins A, Jovanovska A, Lipman J, Ramakrishnan N, Santamaria J; CAT Study investigators. A comparison of epinephrine and norepinephrine in critically ill patients. *Intensive Care Med* 2008;34:2226–2234.

6. Levy B, Boillaert PE, Charpentier C, Nace L, Audibert G, Bauer P, et al. Comparison of norepinephrine and dobutamine to epinephrine for hemodynamics, lactate metabolism, and gastric tonometric variables in septic shock: a prospective, randomized study. *Intensive Care Med* 1997;23:282–287.

Copyright © 2020 by the American Thoracic Society

This article is open access and distributed under the terms of the Creative Commons Attribution Non-Commercial No Derivatives License 4.0 (http://creativecommons.org/licenses/by-nc-nd/4.0/). For commercial usage and reprints, please contact Diane Germ (dgern@thoracic.org).

Originally Published in Press as DOI: 10.1164/rccm.201912-2479LE on January 23, 2020