Letters

TO THE EDITOR

“Bendopnea” or “Kamptopnea?”
Some Thoughts on Terminology and Mechanisms

Thibodeau et al. (1) are to be congratulated on their detailed hemodynamic study of the effects of bending on intracardiac pressures. They demonstrate that dyspnea with bending is associated with a significant positional elevation of right- and left-sided filling pressures. The phenomenon was also seen in subjects without dyspnea, indicating that a physiological change produces symptoms when bending results in excessively high cardiac filling pressures. Although the authors postulate that the mechanism of increased cardiac filling pressure during bending is due to an increased intrathoracic pressure, they do not address the mechanism, nor do they consider the effect of bending on intra-abdominal pressure, an alternative and perhaps more likely mechanism. Indeed, it is disturbing that, in a paper published in an issue of JACC: Heart Failure with a “mini focus” on the physical examination, there is no mention of the presence or absence of hepatomegaly, despite the existence of biventricular heart failure in many subjects and despite a congested liver being a potentially critical factor in dyspnea on bending.

Heart failure is often associated with increased intra-abdominal pressure, and this has been suggested to play a hemodynamic role in worsening renal function with heart failure treatment (2). Intra-abdominal pressure is well studied in critically ill patients and alters with posture (3). Furthermore, external abdominal pressure, as is applied when testing for hepatojugular “reflux,” has been shown to increase cardiac filling pressures in patients with congestive heart failure to a remarkably similar degree to that found by the current authors in patients with dyspnea on bending (4). A further similarity is the observation that external abdominal pressure produces its effect on cardiac filling pressure within 10 s of application, and the authors determined that dyspnea on bending occurred at a median of 8 s from bending (1,4). Thus, the mechanism might well be explained by an increase in an already elevated abdominal pressure provoked by bending, perhaps with a component of compression or upward mechanical displacement of a congested liver. Further studies on this phenomenon should document the presence of hepatomegaly and could use measurements of transvesicular pressure using a pressure transducer attached to a Foley catheter, as previously described in heart failure patients (5).

Finally, while recognizing that JACC: Heart Failure is not a journal dedicated to linguistics, I found the newly coined term “bendopnea” to be jarring in its combination of the word bend (a term derived from old English) with that of opnea, a term of Greek derivation. I believe that a much more appropriate term (and more pleasing to the ear), suggested to me by Dr. Carl A.P. Ruck, Professor of Classical Studies at Boston University, would be kamptapnea (or perhaps kamptopnea) from the Greek kamptos, meaning bent over. This would be in keeping with the consistent Ancient Greek origin of medical terminology used in relation to other disorders of breathing, such as orthopnea, apnea, and platypnea.

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