

## EDITOR'S PAGE



# Heart Failure Fake News

## How Do We Distinguish the Truth?

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**F**ake news is an increasingly recognized topic across society today. Statements are often made with authority but without supporting evidence. In the field of heart failure, we have tools to combat this, with the insistence on highly rigorous clinical research, often requiring a randomized controlled clinical trial and peer review. Blinded assessments, statistically rigorous methodology, and carefully constructed inclusion and exclusion criteria help mitigate the risk of misinformation. These efforts help protect us from the influx of ideas and concepts, whether they are rational or irrational, that are sometimes categorized as fake news. Upon the successful conduct of rigorous clinical research, we formulate practice guidelines that are based on the evidence gathered to date and grade this evidence in accordance with rigorous studies. Thus, in the area of heart failure, there are important safeguards against fake news.

If this is so, why is there so much fake news around inotropes, pulmonary artery catheters, natriuretic peptides, SP nutraceuticals, and even vaccinations in the heart failure arena? In short, enthusiastic investigators using less rigorous study design often reach conclusions that are not of strong scientific merit, reaffirming the ideas of the investigators and thus becoming popular among clinicians. Social media and pre-print servers have exacerbated this problem by allowing non-peer-reviewed information into the public (1).

We must resist the temptation of the novelty and excitement around new ideas, new therapies, and diagnostic methodologies that have a degree of flair

compared with standard therapies, intriguing us to consider their use in our practices. Movie stars and other well-known personalities may encourage such behavior without evidence. Without the rigor of the randomized controlled clinical trial—with proper randomization, proper endpoint assessment, and proper interpretation—we cannot rely on evidence and information that are less sound. In heart failure, we have been humbled by our experiences: 1) the suppression of premature ventricular complexes with encainide and flecainide in patients with ischemic cardiomyopathy; 2) the suppression of apnea-hypopnea indexes with positive airway pressure therapy using adaptive servo ventilation in patients with chronic heart failure with reduced ejection fraction; and 3) no effects of stem cell therapy on outcomes when rigorous randomized controlled trials are conducted and the recent realization that the biologic premise for these studies is fraudulently advanced to a degree that could not be replicated.

Fake news occurs in all parts of society and inflicts harm on our community of patients and providers. We must keep a high guard and protect the public by relying on our basic principles of scientific rigor, integration into guidelines, replication of findings, and maximal signal-to-noise ratios (2). Let us combat fake news with our simple honesty and argue with one voice against exaggerated therapies, untested entities, nutraceuticals, and unlikely extreme responses in order to maintain a calm but firm approach to the advancement of new opportunities for the patients we serve.

### REFERENCES

1. O'Connor CM. Social Media: Can it reduce heart failure events. *J Am Coll Cardiol HF* 2016;4:514-5.
2. Califf RM. The future of cardiovascular medicine from the regulatory perspective. *J Am Coll Cardiol* 2016;68:766-9.