

Hodgkin's disease who experiences cardiac arrest from an anaphylactic reaction to an antibiotic). I also agree that there are legitimate CPR concerns regarding cost, priorities, and stewardship. The determination of a terminal malignancy is, however, a clinical judgment.

I did not subdivide cancer patients into those with metastatic and nonmetastatic disease, as the majority of articles (14 of 16) did not make this distinction. Ebell's<sup>1</sup> meta-analysis of 14 reports contains unpublished data and a report published after my cutoff date of July 1990. Nonetheless, his grouped cancer CPR success rate of 5.8 percent (16 of 276) closely approximates and in fact slightly exceeds my 4.9 percent (9 of 185) result. Ebell's finding of a 0.0 percent CPR success rate among patients with metastatic cancer is clinically helpful and plausible. I do agree, however, that this model needs prospective testing; and I repeat, "there are seldom zeros or one hundreds" in clinical encounters.

Dr. Ebell's objection to the inclusion of "older studies" is curious in light of his reference to his article<sup>1</sup> that contains a 1960 citation (probably a typographical error) in Table 4. Moreover, Cummins<sup>2</sup> refers to a meta-analysis of pooled data (3765 patients, 12 hospitals) from a recent prospective British study<sup>3</sup> that showed a 17 percent CPR success rate (discharge to home).

Dr. Ebell would like the Mantel-Haenszel test "used more widely." In direct contrast, Dr. Katerndahl would not permit the test at all, as none of the 96 CPR reports were randomized trials. Such a restrictive posture allows only minimal investigation (e.g., a meta-analysis of high- versus routine-dose epinephrine) of the myriad of questions and mounds of data that have accumulated in the last 33 years. I did utilize the more computationally tedious Mantel-Haenszel test for the major comparison of younger and older CPR patients, as is expected by American editors and readers. In many comparisons, however, either no test was reported or a traditional chi-square test was used. *P* values were consistently very low, and the Mantel-Haenszel test actually resulted in more extreme values than the chi-square test. With 20,000 CPR patients divided into two groups, a difference of only 1 percent often yields a clinically suspect, yet highly significant statistic.

The real problem is that the Mantel-Haenszel test, by comparing trait A and its opposite, answers the wrong question (or at least an irrelevant or trivial one). Yet, it is often desirable to compare one group with another (e.g., uremia versus myocardial infarct patients). Cancer patients do, of course, have a significantly lower CPR success rate than those without cancer.

Finally, the British report<sup>3</sup> correctly notes "that numbers were great enough to show highly significant differences" and "formal statistical tests were kept to a minimum." Truly, in an especially refreshing and forthright manner, these researchers employed a single statistical test.

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## References

1. Ebell MH. Prearrest predictors of survival following in-hospital cardiopulmonary resuscitation: a meta-analysis. *J Fam Pract* 1992; 34:551-8.
2. Cummins RO. Cardiopulmonary resuscitation as a medical intervention (Editorial). *J Am Board Fam Pract* 1993; 6:191-3.
3. Tunstall-Pedoe H, Bailey L, Chamberlain DA, Marsden AK, Ward ME, Zideman DA. Survey of 3765 cardiopulmonary resuscitations in British hospitals (the BRESUS Study): methods and overall results. *BMJ* 1992; 304: 1347-51.

## Obscure Gastrointestinal Bleeding

*To the Editor:* In their article on obscure gastrointestinal bleeding in a recent issue of *JABFP*, Drs. Rizzolo and Newton<sup>1</sup> state accurately that angiography will not demonstrate bleeding from an intestinal site unless there is active bleeding at a rate greater than 0.5 mL/min. The assertion, however, that the results of a study of slower bleeding rates will therefore be negative (and presumably of little value) is not entirely correct.

Angiography has been shown to provide a diagnosis in 43 percent to 74 percent of patients with recurrent gastrointestinal bleeding of obscure origin.<sup>2,3</sup> This procedure should be strongly considered in any patient with recurrent bleeding severe enough to warrant multiple transfusions, even in the absence of active bleeding.<sup>4</sup> I personally had the opportunity to care for a patient in whom selective mesenteric angiography demonstrated a benign leiomyoma of the small bowel, even though there was no extravasation of dye.<sup>5</sup>

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## References

1. Rizzolo PJ, Newton WP. Recurrent obscure gastrointestinal bleeding. *J Am Board Fam Pract* 1993; 6:169-73.
2. Best EB, Teaford AK, Rader FH. Angiography in chronic recurrent gastrointestinal bleeding: a nine year study. *Surg Clin North Am* 1979; 59:811-29.
3. Allison DJ, Hemingway AP, Cunningham DA. Angiography in gastrointestinal bleeding. *Lancet* 1982; 2:30-3.
4. Spechler SJ, Schimmel EM. Gastrointestinal tract bleeding of unknown origin. *Arch Intern Med* 1982; 142:236-40.
5. Jurica JV, Ross JE. Recurrent gastrointestinal bleeding of obscure origin. *Illinois Med J* 1987; 172:367-9.

The above letter was referred to the authors of the article in question, who offer the following reply:

*To the Editor:* Angiography can be diagnostic in localizing the site of obscure gastrointestinal bleeding in the individual who is actively bleeding. Because it is impossible to establish with certainty which patients are actively bleeding, the overall sensitivity of the angiogram is greatly diminished — most results falling in the 50 to 60 percent range. One must weigh this diagnostic yield against the risks of this invasive procedure.