

However, we doubt that further studies will change the current confusing situation. Is it sensible to increase research efforts in this field any further just to exclude a possible nil effect of NAC in RCIN? Given the amount of data generated on this topic in recent years we believe that it is unlikely that better protection against RCIN will be achieved by additional trials as argued by Pannu et al [4]. We therefore suggest that science should move on to search for even better solutions.

HENDRIK KOLLER and ALEXANDER R. ROSENKRANZ  
Innsbruck, Austria

Correspondence to Hendrik Koller, Universitätsklinik für Innere Medizin, Abteilung klinische Nephrologie, Anichstraße 35, A 6020 Innsbruck, Austria.  
E-mail: [Hendrikkoller@yahoo.com](mailto:Hendrikkoller@yahoo.com)

## REFERENCES

1. FISHBANE S, DURHAM JH, MARZO K, RUDNICK M: N-acetylcysteine in the prevention of radiocontrast-induced nephropathy. *J Am Soc Nephrol* 15:251–260, 2004
2. BIRCK R, KRZOSOK S, MARKOWETZ F, et al: Acetylcysteine for prevention of contrast nephropathy: Meta-analysis. *Lancet* 362:598–603, 2003
3. ALONSO A, LAU J, JABER BL, et al: Prevention of radiocontrast nephropathy with N-acetylcysteine in patients with chronic kidney disease: A metaanalysis of randomized, controlled trials. *Am J Kidney Dis* 43:1–9, 2004
4. PANNU N, MANNS B, LEE H, TONELLI M: Systematic review of the impact of N-acetylcysteine on contrast nephropathy. *Kidney Int* 65:1366–1374, 2004

## Reply from the Authors

We thank Drs. Koller and Rosenkranz for their interest in our meta-analysis. They suggest that further study of NAC for the prevention of contrast nephropathy may be unjustified, given the negligible cost and side effect profile of this agent. Further, they allude to the difficul-

ties faced by clinicians in deciding how best to prevent contrast nephropathy in their patients. We struggled with these issues during preparation of our manuscript, and did not mean to imply that clinicians should not use NAC. Rather, as we stated in our article, we believe that data are insufficient to recommend that NAC become the standard of care for patients receiving radiocontrast.

This distinction is important because although the costs associated with NAC administration may be negligible, the potential consequences of recommending an ineffective therapy as the standard of care are not—from the perspective of both clinicians and scientists.

For clinicians, NAC use may provide a false sense of security—hydration may be ignored, other nephrotoxic medications may not be discontinued as they should be, or unnecessary contrast studies might be performed because of the perception that NAC reduces the risk of contrast nephropathy.

For scientists, such a recommendation may stifle further research to find more effective prophylaxis. In addition, prematurely adopting NAC as the standard of care would jeopardize the feasibility of placebo controlled trials in the future.

We fully agree that clinicians should consider the use of NAC (together with other interventions that reduce the risk of contrast nephropathy) in patients who must receive radiocontrast. However, like Drs. Koller and Rosenkranz, we believe that further work is required to define the optimal strategy for prevention of this serious complication—with or without the use of NAC.

NEESH PANNU, BRADEN MANNS, and MARCELLO TONELLI  
Edmonton, Alberta, Canada

Correspondence to Marcello Tonelli, Division of Nephrology, University of Alberta, Edmonton, Alberta, Canada.  
E-mail: [mtonelli@ualberta.ca](mailto:mtonelli@ualberta.ca)