Contrast induced nephropathy
Useful documents and links

a. **Contrast Induced Nephropathy**

   Western Australia Department of Health contrast induced nephropathy (CIN) information and pathway including a risk assessment and management protocol.

b. **Royal Australian and New Zealand College of Radiologists Guidelines for Iodinated Contrast Administration**

   General guidelines for radiologists using iodinated contrast media developed by the Standards of Practice and Accreditation Committee of The Royal Australian and New Zealand College of Radiologists (RANZCR).

c. **Canadian Association of Radiologists Consensus Guidelines for the Prevention of Contrast Induced Nephropathy**

   The Canadian Association of Radiologists Consensus Guidelines are intended as a practical approach to risk stratification and prevention of CIN.

d. **UK Healthcare Guidelines for Contrast-Induced Nephropathy (CIN) Prevention in Adults**

   University of Kentucky Guidelines for CIN Prevention in Adults for use at University of Kentucky Chandler Medical Center.

e. **Drug offers no CIN protection**

   For the trial, the researchers randomized patients to receive 1,200 mg of oral acetylcysteine twice daily taken as two doses before and two doses after the procedure, or placebo. About

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2 Guidelines for Iodinated Contrast Administration, Royal Australian and New Zealand College of Radiologists (RANZCR), March 2009

3 Consensus Guidelines for the Prevention of Contrast Induced Nephropathy, Canadian Association of Radiologists, June 2011

4 Guidelines for Contrast-Induced Nephropathy (CIN) Prevention in Adults, Kentucky Chandler Medical Center, UK Healthcare January 2009

75% of patients in both groups received a low-osmolar dye.

“Our trial is the largest ever to examine the efficacy of the antioxidant agent acetylcysteine for the prevention of contrast-induced nephropathy with a randomized design, and we believe that the results convincingly demonstrate that acetylcysteine does not protect against contrast-induced nephropathy in patients undergoing angiography,” said principal investigator Otavio Berwanger, MD, Director of the Hospital do Coracao’s Research Center in São Paolo.

f. **AHA: ACT now! Stop using NAC to protect kidneys from contrast**

Brazilian researchers report that N-acetylcysteine should no longer be routinely used to prevent contrast-induced nephropathy (CIN) in patients undergoing coronary and vascular angiography.

At the American Heart Association Scientific Sessions 2010, the investigators presented data from the 2,308-patient Acetylcysteine for the Prevention of Contrast-Induced Nephropathy (ACT) trial.

g. **Sodium Bicarbonate vs Sodium Chloride for the Prevention of Contrast Medium–Induced Nephropathy in Patients Undergoing Coronary Angiography: A Randomized Trial**

The results of this study do not suggest that hydration with sodium bicarbonate is superior to hydration with sodium chloride for the prevention of contrast medium–induced nephropathy in patients with moderate to severe chronic kidney disease who are undergoing coronary angiography.

h. **CIN Rare After Chest Imaging Procedures**

CHICAGO—Routine use of contrast agents for evaluating chest pain carries a risk of contrast-induced nephropathy (CIN).

In a retrospective study, CIN occurred in 3% of patients who received diagnostic testing that required contrast, JoEllen Kohlman, MD, of Saint Louis University in St. Louis, Mo., reported at

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7 Somjot S. Brar, MD; Albert Yuh-Jer Shen, MD; Michael B. Jorgensen, MD; Adam Kotlewski, D; Vicken J. Aharonian, MD; Natasha Desai, BS; Michael Ree, BS; Ahmed Ijaz Shah, MD; Raoul J. Burchette, MS JAMA 2008: 300 (9); 1038 – 1045

the American College of Cardiology annual meeting. “This suggests the need for caution prior to
subjecting all patients to ‘routine’ contrast imaging studies during chest pain.”

i. **Meta-analysis: Effectiveness of Drugs for Preventing Contrast-Induced Nephropathy**

“Our meta-analysis demonstrates that N-acetylcysteine is the most effective agent for preventing
contrast-induced nephropathy in patients with chronic renal insufficiency,” the researchers wrote.
“Whether this risk reduction translates into a benefit in clinical outcomes remains to be proven.”

“Our findings indicate that the use of such oral agents as N-acetylcysteine is reasonable in high-
risk patients who are to receive large or repeated volumes of contrast agents. We believe that the
lack of significant side effects and the low cost justifies use of these agents while empirical data
on clinical outcomes mature.”

Hydration and iso-osmolar or low-osmolar contrast agents such as iodixanol are all associated
with a decreased incidence of contrast-induced nephropathy in patients with renal impairment,
Dr. Kelly’s group observed.

j. **Contrast media-induced nephropathy: risk assessment and reduction**

This seems to be the best current review paper.

k. **Wiki – Contrast-induced nephropathy**

This Wiki adds some information to what constitutes renal failure.

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9 Aine M. Kelly, MD, MS; Ben Dwamena, MD; Paul Cronin, MD, MS; Steven J. Bernstein, MD, MPH; and Ruth C. Carlos,
MD MS Annals of Internal Medicine 2008;148:284-294

10 Fulvio Stacul, May 2003, 699/OS. Available from http://c2i2.digithalamus.com/summer2003/Contrast%20media-
induced%20nephropathy.asp. Retrieved 20 April 2012