**Evidence Table I-18. Summary of all outcomes reported in studies comparing antioxidants versus hydration for the prevention of contrast-induced nephropathy**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Author, year** | **Comparison** | **Incidence of CIN, n/N (%)** | **Incidence of CIN: subgroups, n/N (%)** | **Mortality, n/N (%)\*** | **Need for**  **RRT, n/N (%)** | **Length of hospital stay, mean days (SD)** | **Cardiac**  **events, n/N (%)** |
| Firouzi, 2012[18](#_ENREF_18) | Arm1: Normal saline  Arm2: Normal saline + pentoxifylline | Arm1: 20/146 (13.7)  Arm2: 12/140 (8.5)  P=0.17 | NR | 48 hours  Arm1: 0/146 (0)  Arm2: 0/140 (0)  P=NR | 48 hours  Arm1: 0/146 (0)  Arm2: 0/140 (0)  P=NR | NR | NR |
| Kimmel, 2008[28](#_ENREF_28) | Arm1: 0.45% saline+ placebo  Arm2: 0.45% saline +NAC  Arm3: 0.45% saline + zinc | Arm1: 1/17 (6)  Arm2: 1/19 (5)  Arm3: 2/18 (11)  P=NS | CIN def: A1  Arm1: 2/17 (12)  Arm2: 1/19 (5)  Arm3: 3/18 (17)  P=NS | NR | NR | NR | NR |
| Li, 2009[38](#_ENREF_38) | Arm1: Normal saline  Arm2: Normal saline + probucol | Arm1: 15/103 (14.56)  Arm2: 8/102 (7.84)  P=0.13 | NR | NR | NR | NR | NR |
| Ludwig, 2011[42](#_ENREF_42) | Arm1: Normal saline + placebo  Arm2: Normal saline + MESNA | Arm1: 7/49 (14)  Arm2: 0 (0)  P=0.005 | NR | NR | NR | NR | NR |
| Shehata, 2014[59](#_ENREF_59) | Arm2: IV Normal Saline + Oral NAC  Arm3: IV Normal Saline + Oral NAC + Oral Trimetazidine | Increase in SrCr >25% or >0.5 mg/dl at 72 hours  Arm2: 14/50 (28)  Arm3: 6/50 (12)  p<0.05 | NR | NR | Need for hemodialysis  At 72 hours  Arm2: 0/50 (0)  Arm3: 0/50 (0)  p=NR  At 10 days  Arm2: 0/50 (0)  Arm3: 0/50 (0)  p=NR | NR | Incidence of acute pulmonary edema  At 48 hours  Arm2: 3/50 (6)  Arm3: 1/50 (2)  p=NR |
| Yavari, 2014[67](#_ENREF_67) | Arm1: IV Normal Saline  Arm2: IV Normal Saline + Oral Pentoxifylline | Increase in SrCr >25%  at 48 hours  Arm1: 6/102 (5.9)  Arm2: 6/97 (6.2)  p=0.92 | Diabetics  Arm1: 2/23 (8.7)  Arm2: 2/27 (7.4)  p=0.86  Hypertensive  Arm1: 4/49 (8.7)  Arm2: 2/40 (5)  p=0.68 | 48 hours  Arm1: 0/102 (0)  Arm,2: 0/97 (0)  p=NR | 48 hours  Arm1: 0/102 (0)  Arm,2: 0/97 (0)  p=NR | NR | NR |

**Evidence Table I-18. Summary of all outcomes reported in studies comparing antioxidants versus hydration for the prevention of contrast-induced nephropathy**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Author, year** | **Comparison** | **Incidence of CIN, n/N (%)** | **Incidence of CIN: subgroups, n/N (%)** | **Mortality, n/N (%)\*** | **Need for**  **RRT, n/N (%)** | **Length of hospital stay, mean days (SD)** | **Cardiac**  **events, n/N (%)** |
| Yin, 2013[68](#_ENREF_68) | Arm1: No probucol  Arm2: Probucol | At 72 hours  Arm1: 23/108 (21.3)  Arm2: 4/96 (4.2)  P<0.001 | NR | NR | NR | NR | NR |

CIN=contrast induced nephropathy; Hrs=hours; MESNA= sodium 2-mercaptoethanesulfonate; n=number of patients with event; N=total sample size; NAC=N-acetylcysteine; NR=not reported; NS=not significant; P=p-value; RRT=renal replacement therapy; SD=standard deviation

\* CIN definitions: rise in serum creatinine relative to baseline: ≥25% (A1); ≥0.5 mg/dl (A2); ≥25% or ≥0.5 mg/dl (A3); ≥50% (A4), B: >25% reduction in creatinine clearance

† Study limitations: L=low risk of bias; M=moderate risk of bias; H=high risk of bias

‡n/N; number of events/population at risk (patients in arm)