**Evidence Table E-27. Summary of studies assessing the use of hemodialysis or hemofiltration for the prevention of contrast-induced nephropathy and other outcomes**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Author, year** | **Comparison** | **N** | **CKD stages inclusion criteria, mean/range** | **Age, range of means**‡ | **Mean followup** | **Procedure**  | **CM** | **Definition of CIN\*** | **Study limitations†** |
| Frank, 2003[36](#_ENREF_36) | IV normal saline vs. IV normal saline + hemodialysis | 17 | Inclusion Cr ≥.3 mg/dlRange CrCl: 9.8-29.6 mL/minStages 4-5 | 47-76 | 8 weeks | Coronary angiography | LOCM Iomeprol | NR | H |
| Katoh, 2014[55](#_ENREF_55) | No Right Atrium Hemodiafiltration vs. Right Atrium Hemodiafiltration | 66 | eGFR <45 ml/min/1.73m^2 | 75-80 | 1 month | CAG or PCI | LOCMIopamidol | B2 | H |
| Lehnert, 1998[70](#_ENREF_70) | IV normal saline vs IV normal saline + hemodialysis | 30 | Inclusion Cr >1.4 mg/dl Mean Cr: 2.4 + /- 0.16 mg/dlCrCl not given | 60-63.3 | 14 days | Angiography (27 coronary, 2 peripheral arterial, 1 venous) | LOCM Iopentol | A2 | H |
| Marenzi, 2003[77](#_ENREF_77) | IV normal saline vs. hemofiltration | 114 | Inclusion Cr >2.0 mg/dlMean CrCl: 26 + /- 9 ml/minStages 3-4 | 58-80 | 12 months | Elective coronary interventions | LOCM Iopentol | A1 | H |
| Marenzi, 2006[79](#_ENREF_79) | IV normal saline vs. hemofiltration post CM + IV normal saline vs. hemofiltration pre/post CM + IV normal saline | 92 | Inclusion CrCl ≤ 30 mL/minRange CrCl: 14-30 mL/minStages 4-5 | 71-72 | 21 days | Elective diagnostic and therapeutic coronary interventions | LOCM Iopentol | A2 | M |
| Reinecke, 2007[95](#_ENREF_95) | IV normal saline + glucose vs. IV normal saline + glucose + hemodialysis vs. IV normal saline + glucose + NAC  | 424 | Inclusion Cr ≥1.3 mg/dl and ≤ 3.5 mg/dlMedian GFR 46.6 and 49.3Stage 3 | 66-67.9 | Median553 DaysRange 63-1316 days) | Elective left heart catheterization  | LOCM Iopromide | A2 | H |
| Vogt, 2001[113](#_ENREF_113) | Saline (not specified) vs. Saline (not specified) + hemodialysis | 113 | Inclusion Cr >2.3 mg/dlRange CrCl: 13-30 mL/minStages 4-5 | 59-80 | NR | Renal angioplasty Peripheral angioplasty Coronary angiographyComputed tomography | LOCM | A3 | H |

CKD=Chronic Kidney Disease; CM=contrast media, CIN=contrast induced nephropathy; Cr=creatinine; CrCl=creatinine clearance; IV=intravenous; LOCM=low-osmolar contrast media; NAC=N-acetylcysteine; NR=not reported; PCI=Percutaneous coronary intervention; RCT=Randomized Controlled Trial

\* 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), >25%(B1); ≥0.3 mg/dl or ≥25%(B2) reduction in creatinine clearance

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

‡ Some studies only reported mean age per arm, not one mean for whole population. This column shows range of the means across all arms.