Supplement Item 1. Search strategy

A systematic computer-aided search of related studies will be conducted in the following databases:

1. Ovid MEDLINE (1946 to March 25, 2021, including epub ahead of print, in process and other non-indexed citations and daily)

2. Ovid Embase (1947 to March 2021)

3. Cochrane Database of Systematic Reviews （published on or before 25th March 2021）

1, Search strategy for MEDLINE

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| **Ovid MEDLINE(R) <1946 to** **March 25 2021>** |
| # | Retrieval content | Results | Comments |
| 1 | exp Contrast Media/ | 122344 |  |
| 2 | (contrast media or contrast medium or contrast material$ or contrast agent$ or contrast dye or radiographic contrast).ti,ab. | 58888 |  |
| 3 | (radiocontrast media or radiocontrast medium or radiocontrast agent$).ti,ab. | 519 |  |
| 4 | (percutaneous coronary intervention or PCI or coronary angiograph or angiography or catheter-proven or Angioplasty).ti,ab. | 220733 |  |
| 5 | 1 or 2 or 3 or 4 | 352369 |  |
| 6 | (nephritis or nephropath$ or nephrotoxic$).ti,ab. | 102109 |  |
| 7 | ((impair$ or damag$ or reduc$ or injur$ dysfunction$ or failure) adj2 (renal or kidney)).ti,ab. | 140766 |  |
| 8 | exp Kidney Diseases/ | 524046 |  |
| 9 | exp nephritis/ or diabetic nephropathies/ | 99665 |  |
| 10 | exp renal insufficiency/ | 178747 |  |
| 11 | (acute kidney injury or acute kidney injur\* or acute kidney failure\* or Acute kidney insufficienc\* or contrast induced nephropathy or contrast induced nephropath\* or contrast nephropath\* or contrast induced acute kidney injur\* or AKI or ARF or CI-AKI or acute renal injur\* or acute renal failure\* or acute renal insufficienc\* or creatinine or serum creatinine).ti,ab. | 165723 |  |
| 12 | 6 or 7 or 8 or 9 or 10 or 11 | 691738 |  |
| 13 | Risk Assessment/ | 278403 |  |
| 14 | risk factors/ | 857901 |  |
| 15 | ((risk adj3 model\*) or score\* or prognostic factor\* or predict\* or regression\* or (logistic adj2 model\*) or multivariable logistic regression or multivariable analyses or logistic regression or algorithm\* or equation\* or (multivariate adj3 analysis)).ti,ab. | 3415203 |  |
| 16 | Forecasting/ | 87079 |  |
| 17 | "Predictive Value of Tests"/ | 209287 |  |
| 18 | multivariate analysis/ | 128093 |  |
| 19 | sn.fs. | 984478 |  |
| 20 | exp mathematical concepts/ | 1014845 |  |
| 21 | exp Models, Biological/ | 845047 |  |
| 22 | exp models, statistical/ | 421895 |  |
| 23 | area under curve/ | 41811 |  |
| 24 | 13 or 14 or 15 or 16 or 17 or 18 or 19 or 20 or 21 or 22 or 23 | 6116788 |  |
| 25 | 5 and 12 and 24 | 8150 |  |

2, Search strategy for Embase

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| **Embase <1974 to 2021 March 25>** |
| # | Retrieval content | Results | Comments |
| 1 | 'contrast media'/exp | 193093 |  |
| 2 | ('contrast media':ab,ti OR 'contrast medium':ab,ti OR 'contrast material$':ab,ti OR 'contrast agent$':ab,ti OR 'contrast dye':ab,ti OR 'radiographic contrast':ab,ti) | [76430](https://www.embase.com/) |  |
| 3 | ('radiocontrast media':ab,ti OR 'radiocontrast medium':ab,ti OR 'radiocontrast agent$':ab,ti) | 853 |  |
| 4 | ('percutaneous coronary intervention':ab,ti OR 'pci':ab,ti OR 'coronary angiograph':ab,ti OR 'angiography':ab,ti OR 'catheter-proven':ab,ti OR 'angioplasty':ab,ti) | [335684](https://www.embase.com/) |  |
| 5 | #1 OR #2 OR #3 OR #4 | [527840](https://www.embase.com/) |  |
| 6 | ('nephritis':ab,ti OR 'nephropath$':ab,ti OR 'nephrotoxic$':ab,ti) | [119597](https://www.embase.com/) |  |
| 7 | ('impair$' OR 'damag$' OR 'reduc$' OR 'injur$ dysfunction$' OR 'failure') AND ('renal':ab,ti OR 'kidney':ab,ti) | [452466](https://www.embase.com/) |  |
| 8 | 'kidney diseases'/exp | [1068678](https://www.embase.com/) |  |
| 9 | ('nephritis'/exp OR 'diabetic nephropathies'/exp) | [173945](https://www.embase.com/) |  |
| 10 | 'renal insufficiency'/exp | [445906](https://www.embase.com/) |  |
| 11 | ('acute kidney injury':ab,ti OR 'acute kidney injur\*':ab,ti OR 'acute kidney failure\*':ab,ti OR 'acute kidney insufficienc\*':ab,ti OR 'contrast induced nephropathy':ab,ti OR 'contrast induced nephropath\*':ab,ti OR 'contrast nephropath\*':ab,ti OR 'contrast induced acute kidney injur\*':ab,ti OR 'aki':ab,ti OR 'arf':ab,ti OR 'cin':ab,ti OR 'acute renal injur\*':ab,ti OR 'acute renal failure\*':ab,ti OR 'acute renal insufficienc\*':ab,ti OR 'creatinine':ab,ti OR 'serum creatinine':ab,ti) | [282982](https://www.embase.com/) |  |
| 12 | #6 OR #7 OR #8 OR #9 OR #10 OR #11 | [1283008](https://www.embase.com/) |  |
| 13 | 'risk assessment' | [651853](https://www.embase.com/) |  |
| 14 | 'risk factor' | [1235299](https://www.embase.com/) |  |
| 15 | ('risk model\*':ab,ti OR 'score\*':ab,ti OR 'prognostic factor\*':ab,ti OR 'predict\*':ab,ti OR 'regression\*':ab,ti OR 'logistic model':ab,ti OR 'multivariable logistic regression':ab,ti OR 'multivariable analyses':ab,ti OR 'logistic regression':ab,ti OR 'algorithm\*':ab,ti OR 'equation\*':ab,ti OR 'multivariate analysis':ab,ti) | [4710780](https://www.embase.com/) |  |
| 16 | forecasting | [71433](https://www.embase.com/) |  |
| 17 | 'predictive value of tests' | [764](https://www.embase.com/) |  |
| 18 | 'multivariate analysis' | [313646](https://www.embase.com/) |  |
| 19 | 'mathematical concepts' | [4800354](https://www.embase.com/) |  |
| 20 | 'models, biological' | [1669105](https://www.embase.com/) |  |
| 21 | 'models, statistical' | 252051 |  |
| 22 | 'area under curve' | [159054](https://www.embase.com/) |  |
| 23 | #13 OR #14 OR #15 OR #16 OR #17 OR #18 OR #19 OR #20 OR #21 OR #22 | [9984566](https://www.embase.com/) |  |
| 24 | #5 AND #12 AND #23 | [21020](https://www.embase.com/) |  |

3, Cochrane Central

Cochrane review search < 2021 March 25>

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| --- | --- | --- |
| Retrieve content | Result | Comment |
| 1 | (Contrast Media):ti,ab,kw | 116 |  |
| 2 | (contrast media OR contrast medium OR contrast material$ OR contrast agent$ OR contrast dye OR radiographic contrast):ti,ab,kw | 135 |  |
| 3 | (radiocontrast media or radiocontrast medium or radiocontrast agent$):ti,ab,kw | 1 |  |
| 4 | (percutaneous coronary intervention OR PCI OR coronary angiograph OR angiography OR catheter-proven or Angioplasty):ti,ab,kw | 92 |  |
| 5 | 1 or 2 or 3 or 4 | 225 |  |
| 6 | (nephritis OR nephropath$ OR nephrotoxic$):ti,ab,kw | 25 |  |
| 7 | (impair$ OR damag$ OR reduc$ OR injur$ OR dysfunction$ OR failure):ti,ab,kw AND (renal OR kidney):ti,ab,kw | 464 |  |
| 8 | (Kidney Diseases):ti,ab,kw | 306 |  |
| 9 | (nephritis):ti,ab,kw OR (diabetic nephropathies):ti,ab,kw | 20 |  |
| 10 | (renal insufficiency):ti,ab,kw | 156 |  |
| 11 | (acute kidney injury OR acute kidney injur\* OR acute kidney failure\* OR Acute kidney insufficienc\* OR contrast induced nephropathy OR contrast induced nephropath\* OR contrast nephropath\* OR contrast induced acute kidney injur\* OR AKI OR ARF OR CI-AKI OR acute renal injur\* OR acute renal failure\* OR acute renal insufficienc\* OR creatinine OR serum creatinine):ti,ab,kw | 148 |  |
| 12 | 6 or 7 or 8 or 9 or 10 or 11 | 527 |  |
| 13 | (Risk Assessment):ti,ab,kw | 6159 |  |
| 14 | (risk factors):ti,ab,kw | 1513 |  |
| 15 | (risk AND model\*):ti,ab,kw OR (score\* OR prognostic factor\* OR predict\* OR regression\*):ti,ab,kw OR (logistic AND model\*):ti,ab,kw OR (multivariable logistic regression OR multivariable analyses OR logistic regression OR algorithm\* OR equation\*):ti,ab,kw OR (multivariate AND analysis):ti,ab,kw | 3272 |  |
| 16 | (Forecasting):ti,ab,kw | 2 |  |
| 17 | (Predictive Value of Tests) | 44 |  |
| 18 | (multivariate analysis) | 36 |  |
| 19 | sn.fs. | 0 |  |
| 20 | (mathematical concepts):ti,ab,kw | 0 |  |
| 21 | (Models AND Biological):ti,ab,kw | 55 |  |
| 22 | (models, statistical):ti,ab,kw | 830 |  |
| 23 | (area under curve) | 24 |  |
| 24 | 13 or 14 or 15 or 16 or 17 or 18 or 19 or 20 or 21 or 22 or 23 | 6766 |  |
| 25 | 5 and 12 and 24 | 6 |  |

Supplement Table 1. Quality assessment of included studies.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **STUDIES** | **Selection** | **Comparability** | **Outcome/ exposure** | **Total Score** |
| Saito Y, 2015 | \*\*\* | \*\* | \*\*\* | 8 |
| Takahashi EA, 2017 | \*\*\*\* | \*\* | \*\*\* | 9 |
| Lucia Barbieri, 2016 | \*\*\*\* | \*\* | \*\*\* | 9 |
| Yu-mei Gao, 2014 | \*\*\*\* | \*\* | \*\*\* | 9 |
| Ruey-Hsing Chou, 2016 | \*\*\*\* | \*\* | \*\*\* | 9 |
| Ali Amiri, 2018 | \*\*\*\* | \* | \*\*\* | 8 |
| Ling Sun, 2018 | \*\*\*\* | \*\* | \*\* | 8 |
| Denis F. Souza, 2015 | \*\*\*\* | \* | \*\*\* | 8 |
| Kato K, 2008 | \*\*\*\* | \*\* | \*\*\* | 9 |
| Hossein Nough, 2013 | \*\*\*\* | \*\* | \*\* | 8 |
| Ibrahim E. Celik, 2015 | \*\*\*\* | \*\* | \*\*\* | 9 |
| Omer Celik, 2014 | \*\*\*\* | \*\* | \*\*\* | 9 |
| Giuseppe Ando, 2013 | \*\*\* | \*\* | \*\*\* | 8 |
| Kosei Tanaga, 2012 | \*\*\*\* | \*\* | \*\*\* | 9 |
| Yijie Hu, 2013 | \*\*\* | \*\* | \*\*\* | 8 |
| Silvia Esmeralda Pérez-Topete, 2016 | \*\*\*\* | \* | \*\* | 7 |
| Xi-peng Sun, 2017 | \*\*\*\* | \*\* | \*\*\* | 9 |
| Kun Wang, 2017 | \*\*\*\* | \*\* | \*\*\* | 9 |
| George Dangas, 2005 | \*\*\*\* | \*\* | \*\*\* | 9 |
| Suhas S. Lele, 2013 | \*\*\*\* | \*\* | \*\*\* | 9 |
| Chong E, 2010 | \*\*\*\* | \* | \*\* | 7 |
| Cuneyt Kocas, 2015 | \*\*\* | \*\* | \*\*\* | 8 |
| Alparslan Kurtul, , 2016 | \*\*\*\* | \*\* | \*\*\* | 9 |
| Hakan Ucar, 2013 | \*\*\*\* | \*\* | \*\*\* | 9 |
| Masaomi Gohbara, 2017 | \*\*\*\* | \* | \*\* | 7 |
| Eugenia Nikolsky, 2005 | \*\*\*\* | \*\* | \*\*\* | 9 |
| Jin Wi, 2012 | \*\*\* | \*\* | \*\*\* | 8 |
| D. Zahler, 2019 | \*\*\*\* | \*\* | \*\*\* | 9 |
| Yalcin. Velibey, 2016 | \*\*\*\* | \*\* | \*\*\* | 9 |
| G. Cicek, 2017 | \*\*\*\* | \*\* | \*\*\* | 9 |
| V. Kanic, 2019 | \*\*\*\* | \*\* | \*\*\* | 9 |
| C. Tang, 2019 | \*\*\*\* | \* | \*\*\* | 8 |
| Ahmet Kaya, 2018 | \*\*\*\* | \*\* | \*\*\* | 9 |
| S. Sigirci, 2019 | \*\*\*\* | \*\* | \*\*\* | 9 |
| HONGWU CHEN, 2020 | \*\*\*\* | \*\* | \*\*\* | 9 |
| Yuhan Qin, 2021 | \*\*\*\* | \*\* | \*\*\* | 9 |
| Anand Prasad, 2019 | \*\*\* | \* | \*\*\* | 7 |
| Pengfei Zuo, 2020 | \*\*\*\* | \*\* | \*\*\* | 9 |
| Can Wang, 2020 | \*\*\*\* | \*\* | \*\*\* | 9 |
| Joonsang Yoo, 2020 | \*\*\* | \*\* | \*\*\* | 8 |
| Cagri Zorlu, 2019 | \*\*\*\* | \*\* | \*\*\* | 9 |
| Yong Wang, 2019 | \*\*\*\* | \*\* | \*\*\* | 9 |
| Veysel Ozan Tanık, 2018 | \*\*\*\* | \*\* | \*\*\* | 9 |
| Elena Izkhakov, 2019 | \*\*\*\* | \*\* | \*\*\* | 9 |
| Khurram Butt, 2020 | \*\*\*\* | \*\* | \*\*\* | 9 |

Supplement Fig. 1. Funnel plot for publication bias regarding hypertension.

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(A). CA-AKIA, CA-AKIA was defined as an absolute increase in serum creatinine ≥0.5 mg/dL or an increase ≥25% from baseline within 72 hours.

(B). CA-AKIB, CA-AKIB was defined as an absolute increase of ≥0.3 mg/dL or a relative increase of ≥50% in serum creatinine from baseline values within 72 hours.

(C). CA-AKIC, CA-AKIC was defined as an absolute increase of ≥0.3 mg/dL or a relative increase of ≥50% in serum creatinine from baseline values within 7 days.