Supplementary Material

Search Strategy

The search strategy was designed to comprehensively identify studies related to chronic renal insufficiency and homocysteine or hyperhomocysteinemia.The following search terms and strategies were used in PubMed,Embase,and Cochrane databases to ensure a thorough retrieval of relevant literature.

PubMed Search Strategy

(("Renal Insufficiency, Chronic"[Mesh]) OR ((((((((((((((((((Renal Insufficiencies Chronic[Title/Abstract]) OR (Chronic Kidney Insufficiency[Title/Abstract])) OR (Chronic Kidney Insufficiencies[Title/Abstract])) OR (Kidney Insufficiencies Chronic[Title/Abstract])) OR (Chronic Renal Insufficiency[Title/Abstract])) OR (Kidney Insufficiency Chronic[Title/Abstract])) OR (Chronic Kidney Diseases[Title/Abstract])) OR (Chronic Kidney Disease[Title/Abstract])) OR (Disease Chronic Kidney[Title/Abstract])) OR (Diseases Chronic Kidney[Title/Abstract])) OR (Kidney Disease Chronic[Title/Abstract])) OR (Kidney Diseases Chronic[Title/Abstract])) OR (Chronic Renal Diseases[Title/Abstract])) OR (Chronic Renal Disease[Title/Abstract])) OR (Disease Chronic Renal[Title/Abstract])) OR (Diseases Chronic Renal[Title/Abstract])) OR (Renal Disease Chronic[Title/Abstract])) OR (Renal Diseases Chronic[Title/Abstract]))) AND ((("Homocysteine"[Mesh]) OR (((((2-amino-4-mercaptobutyric acid[Title/Abstract]) OR (2 amino 4 mercaptobutyric acid[Title/Abstract])) OR (Homocysteine L-Isomer[Title/Abstract])) OR (Homocysteine L Isomer[Title/Abstract])) OR (L-Isomer Homocysteine[Title/Abstract]))) OR (("Hyperhomocysteinemia"[Mesh]) OR (Hyperhomocysteinemias[Title/Abstract]))).

Embase Search Strategy

('renal insufficiency chronic' OR 'renal insufficiencies chronic' OR 'chronic kidney insufficiency' OR 'chronic kidney insufficiencies' OR 'kidney insufficiencies chronic' OR 'chronic renal insufficiency' OR 'kidney insufficiency chronic' OR 'chronic kidney diseases' OR 'chronic kidney disease' OR 'disease chronic kidney' OR 'diseases chronic kidney' OR 'kidney disease chronic' OR 'kidney diseases chronic' OR 'chronic renal diseases' OR 'chronic renal disease' OR 'disease chronic renal' OR 'diseases chronic renal' OR 'renal disease chronic' OR 'renal diseases chronic' OR 'chronic kidney failure'/exp) AND ('2-amino-4-mercaptobutyricacid' OR '2amino4mercaptobutyric acid' OR 'homocysteine l-isomer' OR 'homocysteine l isomer' OR 'l-isomer homocysteine' OR 'homocysteine'/exp OR 'homocysteinaemia' OR 'homocysteinemia' OR 'hyper-homocysteinaemia' OR 'hyper-homocysteinemia' OR 'hyperhomocysteinaemia' OR 'hyperhomocysteinemia' OR 'Hyperhomocysteinemia'/exp).

Cochrane Search Strategy

#1 MeSH descriptor: [Renal Insufficiency, Chronic] explode all trees

#2 (renal insufficiency chronic):ti,ab,kw OR (renal insufficiencies chronic):ti,ab,kw OR (chronic kidney insufficiency):ti,ab,kw OR (chronic kidney insufficiencies):ti,ab,kw OR (kidney insufficiencies chronic):ti,ab,kw OR (chronic renal insufficiency):ti,ab,kw OR (kidney insufficiency chronic):ti,ab,kw OR (chronic kidney diseases):ti,ab,kw OR (chronic kidney disease):ti,ab,kw OR (disease chronic kidney):ti,ab,kw OR (diseases chronic kidney):ti,ab,kw OR (kidney disease chronic):ti,ab,kw OR (kidney diseases chronic):ti,ab,kw OR (chronic renal diseases):ti,ab,kw OR (chronic renal disease):ti,ab,kw OR (disease chronic renal):ti,ab,kw OR (diseases chronic renal):ti,ab,kw OR (renal disease chronic):ti,ab,kw OR (renal diseases chronic):ti,ab,kw OR (chronic kidney failure):ti,ab,kw

#3 #1 OR #2

#4 MeSH descriptor: [Homocysteine] explode all trees

#5 (2-amino-4-mercaptobutyricacid):ti,ab,kw OR (2amino4mercaptobutyric acid ):ti,ab,kw OR (homocysteine l-isomer):ti,ab,kw OR (homocysteine l isomer):ti,ab,kw OR (l-isomer homocysteine ):ti,ab,kw

#6 MeSH descriptor: [Hyperhomocysteinemia] explode all trees

#7(homocysteinaemia):ti,ab,kw OR (homocysteinemia):ti,ab,kw OR (hyper-homocysteinaemia):ti,ab,kw OR (hyper-homocysteinemia):ti,ab,kw OR (hyperhomocysteinaemia):ti,ab,kw OR (hyperhomocysteinemia):ti,ab,kw

#8 #4 OR #5 OR #6 OR #7

#9 #3 AND OR #8

The above Cochrane search strategy was combined with the search terms for chronic renal insufficiency and homocysteine/hyperhomocysteinemia to ensure a comprehensive retrieval of relevant studies.

Explanation of Search Terms

1、Chronic Renal Insufficiency and Related Terms:The search terms for chronic renal insufficiency were selected to cover various synonyms and related conditions,including chronic kidney disease,renal insufficiency,and kidney failure.This comprehensive approach ensures that all relevant studies addressing chronic renal conditions are included.

2、Homocysteine and Hyperhomocysteinemia:The terms related to homocysteine and hyperhomocysteinemia were chosen to capture studies focusing on the biochemical aspects,as well as clinical implications of elevated homocysteine levels.Both MeSH terms and free-text terms were used to maximize retrieval.

3、Database-Specific Syntax:The search strategies were tailored to the syntax and indexing systems of PubMed,Embase,and Cochrane.PubMed utilizes MeSH terms and Boolean operators,while Embase allows for a combination of free-text terms and explosion of subject headings.The Cochrane search strategy was adapted from the highly sensitive search strategy for identifying randomized trials in MEDLINE.

4、Comprehensive Coverage:The search strategy was designed to be exhaustive,ensuring that no relevant studies are missed.The inclusion of both MeSH terms and free-text terms in PubMed,as well as the use of explosion in Embase and Cochrane,enhances the sensitivity of the search.

Conclusion

The search strategy described above was developed to identify all relevant studies related to chronic renal insufficiency and homocysteine or hyperhomocysteinemia.The combination of MeSH terms,free-text terms,and database-specific syntax ensures a comprehensive and sensitive retrieval of literature.The Cochrane search strategy was adapted to further enhance the sensitivity of the search for randomized controlled trials.