



Cochrane Renal Group Newsletter

April 2010

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New reviews, protocols

New and updated reviews

In Issues 1-4, 2010 we published four new reviews and one 'conclusions changed' review:

New

- Hydroxyethyl starch (HES) versus other fluid therapies: effects on kidney function
- Interventions for bone disease in children with chronic kidney disease
- Interventions for preventing infectious complications in haemodialysis patients with central venous catheters
- Nutritional support for acute kidney injury

Conclusions changed

- Interleukin 2 receptor antagonists for kidney transplant recipients

New protocols

In Issues 1-4, 2010 we published five new protocols and one major change protocol:

New

- Cordyceps sinensis (a Chinese medicinal herb) for treating chronic kidney disease
- Interventions for lowering plasma homocysteine levels in predialysis patients
- Low molecular weight heparin (LMWH) versus unfractionated heparin (UFH) for haemodialysis anticoagulation
- Radix Astragali (a Chinese medicinal herb) for treating chronic kidney disease
- Single dose antibiotics for treating uncomplicated urinary tract infection in non-pregnant women

New titles

- Acupuncture for chronic kidney disease
- Acupuncture for renal colic
- Adjunctive medical expulsive therapy for renal and ureteral stone fragments immediately following shock wave lithotripsy

- Anticoagulants for preventing thrombosis of central venous haemodialysis catheters in end-stage kidney disease
- Antihypertensive agents for children with chronic kidney disease
- Citrate salts for preventing and treating kidney stones
- Continuous erythropoiesis receptor activator (CERA) for the anaemia of chronic kidney disease
- Glucose lowering therapies for chronic kidney disease and kidney transplantation
- Glucose targets for preventing diabetic kidney disease and its progression
- Immunosuppressive induction therapy for lung transplant recipients
- Interventions for leg cramps in people on dialysis
- Pentoxifylline for chronic kidney disease
- Probiotics for preventing urinary tract infection in people with neuropathic bladder
- Probiotics for treating multi-resistant organism (MRO) colonisation/infection
- Tacrolimus versus cyclosporin as primary immunosuppression for lung transplant recipients
- Target of rapamycin inhibitors (TOR-I) as maintenance immunosuppression for kidney transplant recipients
- Vascular access type for people on chronic haemodialysis

Potential titles

Our potential titles list is constantly being updated. If you would like a copy please email us at crg@chw.edu.au.

If you have a proposal for a review that is not on the list, please check our list of current reviews to make sure you are not proposing a review that has been completed or is currently being written: (www.cochrane.org/reviews/en/topics/89.html)

Renal group news

Visitors to the Cochrane Renal Group (CRG)

University of Sydney Summer Scholarships Program

From December 2009 to the end of February 2010, the Cochrane Renal Group at the Centre for Kidney Research, hosted a number of students who were part of the Sydney Medical School Summer Scholarships Program.

Michael Su joined us having just completed his medical degree at Newcastle, and about to start his internship in Jan 2010. Michael worked on a project about the uptake of trial registration in Nephrology using the Cochrane Renal Group's specialised register.

Brendon Nguyen joined us having just completed the first year of his medical degree at James Cook University, where he became interested in 'things renal' after being involved in some projects in North Queensland. He worked on a project about the number, coverage and quality of diagnostic test studies in Nephrology.

Krishna Tallapragada, a Sydney University medical student, had just completed his second year. Krishna worked on updating the Cochrane review "Mono and polyclonal antibody treatment for acute rejection episodes in kidney transplant recipients"

Visiting Research Student—Tom Rogerson

In March 2010 Tom Rogerson joined us as a part time volunteer research student for two months. Tom is completing the third year of a science degree in biochemistry, microbiology and immunology. Because of his background, Tom is working on projects centred around diagnostic test studies.

Visiting Specialist Registrar in Nephrology—Lorna Henderson

Lorna Henderson, Specialist Registrar in Nephrology at the Royal Infirmary of Edinburgh, joined CRG in September 2009 for a 12 month period and is working on the Cochrane review "Treatment for lupus nephritis".

Lorna has become fully immersed in life in Sydney, recently competing, as part of the Centre for Kidney Research team, in a Sydney Harbour and Botanic Gardens triathlon (400m swim, 8km cycle, 4km run).



Richard McGee, Lydia McGee, Michelle Irving, Gabrielle Williams, Angela Webster, Lorna Henderson

PhD student—Richard McGee

Richard is a future Paediatric surgeon and University of Sydney PhD candidate based at the Centre for Kidney Research. Having studied Medicine in Ireland, Richard moved to Australia where he has since completed postgraduate degrees in Anatomy and Clinical Epidemiology. Richard is currently working on updating Cochrane reviews, in particular the IL2 review and target of rapamycin inhibitors, as well as methodology and register projects. Richard is a keen swimmer and organised the Centre for Kidney Research team's involvement in the Sydney Harbour triathlon.



Sydney Harbour Triathlon swim



Visiting Specialist Registrar in Nephrology—Evi Nagler

Evi Nagler, Specialist Registrar in Nephrology and PhD-student at the University of Ghent, Belgium, joined us in February 2010 and is visiting the Cochrane Renal Group for a period of 9 months.

She is to train in the area of systematic reviews, as part of a research project for the European Renal Best Practice (ERBP), the leading European body in renal recommendation development.

Renal group news (cont'd)



10th Anniversary celebration

On Thursday May 6, the Cochrane Renal Group (CRG) will be celebrating our achievements during the 10 years we have been based in Sydney. An evening cocktail party will be held at The University of Sydney to celebrate the occasion and to thank contributors.

To those of you who cannot join us, we would like to thank you for all your support over the last 10 years and look forward to working with you all in the years to come.

Cochrane Collaboration news

Online Learning Resources for Undertaking a Systematic Review

This is a reminder about the Online Learning Resources for Undertaking a Systematic Review that have been developed by the UK Cochrane Centre and the University of Portsmouth. In the first instance, these are being made available to authors from any review group who have a registered title for a Cochrane review, have an active record in Archie and are located in the UK.

We are exploring means to make the materials available to authors who are not based in the UK. The reasons for this staggered procedure relate to licensing of the underlying software and the provision of support to users outside the UK.

If you are a UK-based Cochrane author and wish to use these resources please go to the UKCC homepage (www.cochrane.ac.uk). Then click on the Online Learning Resources heading in the middle of the page which will then take you to pages with further information about the resources and how to register for a free userID and password.

If you have any questions about any aspect of the application process or the product itself, please contact Carly Toop (ctoop@cochrane.ac.uk) at the UK Cochrane Centre in the first instance.

Nottingham Systematic Review Course 2010

Event: The Nottingham Systematic Review Course 2010
Date: 18 - 21 May 2010
Location: The University of Nottingham, UK

Details: This course will appeal to all those interested in completing a Cochrane-style review. Experienced tutors and facilitators will be available to give you practical and individual advice. Study methods: Small group teaching, workshops, library-based interactive tutorials with hands on practical work at computer stations and group work. Read the opinions of a former delegate on the Nottingham Systematic Review

Course recently published in BMJ Careers.

<http://careers.bmj.com/careers/advice/view-article.html?id=20000296>

Contact: Please contact Lindsey Air +44 (0)115 823 1287

Email: lindsey.air@nottingham.ac.uk

Website: <http://szg.cochrane.org/en/events.html> to download an application form.

UK Cochrane Centre course for authors

The UK Cochrane Centre is offering a short course for authors, 11-12 May, who are keen to update their review and who would benefit from:

- * dedicated research time
- * expertise on hand to resolve individual problems
- * taught sessions on specific aspects of the updating process, such as statistical analysis and data interpretation

Course aims:

To enable authors who are finding it difficult to update their review

- to overcome the blocks that are preventing progress
- to prepare a first draft of their updated review for submission to their CRG

Entry criteria:

Authors MUST:

- be based in the countries for which the UK Cochrane Centre is the reference Centre (UK and Ireland; Bahrain, Egypt, Iran, Iraq, Israel, Jordan, Kuwait, Lebanon, Oman, Palestine, Qatar, Saudi Arabia, Sudan, Syria, Turkey, United Arab Emirates, and Yemen).
- have published their original review in the Cochrane Library or are updating somebody else's Cochrane Review.

For further information please contact: Nicola McDowell at the UK Cochrane Centre, Oxford
(nmcdowell@cochrane.co.uk)

Online systematic review course

Event: Fully online, advanced systematic reviewing course:

Methods For Research Synthesis

Date: 17 May to 30 July 2010

Host: EPPI-Centre, Institute of Education, University of London

Location: Online

Details: This course will equip you with the skills to undertake a qualitative or quantitative synthesis in a systematic

Cochrane Collaboration news (cont'd)

review. On successful completion of the course, you will be familiar with the aims and rationale for different methods of critical appraisal and research synthesis. This online version enables you to choose where and when you study, whilst still receiving online tuition from experienced researchers at the EPPI-Centre in London. Places still available

Contact: Kim Reynolds, Tel: +44 (0)20 7612 6280, Email: k.reynolds@ioe.ac.uk
Website: <http://eppi.ioe.ac.uk/Msc/mrs>

Workshop of how to practice evidence-based health care

Event: The 11th Nordic Workshop on How to Practice Evidence-Based Health Care

Host: The Norwegian Knowledge Centre for the Health Services

Location: Holmsbu, Norway

Date: 31 May - 4 June, 2010

Details: This five-day workshop (Mon 2 p.m. - Fri 2 p.m.) will focus on teaching the basics of, and developing further insights into, the conscientious use of current best evidence in making decisions about the care of individual patients or the delivery of health services. The workshop is an intense, hands-on learning experience. We will use a small-group, problem-based approach to learning. Among the tutors we have Gordon Guyatt, who this year is one of ten who are dialing out to the BMJ Lifetime Award for his efforts. Past participants have included physicians, nurses, policy makers, physical therapists, medical librarians, health care journalists, health care consumer advocates and educators.

Contact: Kari Haavelsrud

Email: kari.haavelsrud@nokc.no

Website: <http://www.kunnskapssenteret.no/binary/8301/file>

Cochrane Canada Symposium

Date: 19-20 May 2010; Presymposium: 17-18 May 2010

Location: Ottawa, Ontario, Canada

Details: We invite researchers, health policy makers and managers, health professionals, students, and patients to join Cochrane Canada as we discuss Evidence in Uncertain Times at our 8th annual symposium. Topics include: Health planning - there's nothing constant but change; Shared evidence, shared decision making; Moving methodology forward; and Communicating the evidence. Presymposium workshops include: Cochrane Standard Author Training; Answer your health questions with The

Cochrane Library; Tailored training for consumers involved in Cochrane; Health Systems Evidence - a database for policymakers; and Investigating and Dealing with Bias in Systematic Reviews

Contact: Lori Tarbett

Email: ltarbett@uottawa.ca

Website: ccncsymposium.com

Evidence Aid

Following the devastating earthquake in Haiti, The Cochrane Collaboration is working with colleagues in the World Health Organization (WHO), Pan American Health Organization (PAHO), the Centre for Reviews & Dissemination (UK), Cochrane Review Groups and others to identify Cochrane reviews and other systematic reviews of immediate importance. These, along with available Evidence Update summaries, were made available in a special Evidence Aid collection on Cochrane.org on 15 January, and have been shared with WHO and PAHO.



Conferences - 2010



May 1 - 5, 2010 American Transplant Congress 2010, San Diego CA USA
www.atcmeeting.org/

May 25, 2010 XV International Congress on Nutrition and Metabolism in Renal Disease, Lausanne, Switzerland
<http://www.isrnm-lausanne2010.org/>

June 8-11, 2010 19th International Vicenza Course on Critical Care Nephrology, Vicenza, Italy www.vicenzanephrocourses.com/programma_2010.htm

June 23-25, 2010 TSANZ Annual Scientific Meeting, Canberra, ACT
<http://www.tsanz.com.au/>

June 25-28, 2010 XLVII ERA-EDTA Congress, Munich, Germany.
www.eraedta2010.org

August 15 - 19, 2010 XXIII International Congress of The Transplantation Society, Vancouver, British Columbia, Canada.
www.transplantation2010.org

August 29 - September 2, 2010 15th Congress of International Pediatric Nephrology Association (IPNA) 2010 www.ipna2010.org

September 26 - 30, 2010 The 23rd Scientific Meeting of the International Society of Hypertension, Vancouver, Canada
www.vancouverhypertension2010.com

September 13 -15, 2010 ANZSN Annual Scientific Meeting -The 46th Annual Scientific Meeting will be held in Perth, Western Australia. www.anzsn2010.com.au

October 18-22, 2010 Joint Colloquium of the Cochrane and Campbell Collaborations, Keystone, Colorado, USA.
www.regonline.com/colloquium2010

November 16 - 21, 2010 ASN Renal Week 2010 - Colorado Convention Center, Denver, CO, USA
www.asn-online.org

Cochrane Collaboration news (cont'd)

The information has been translated into French (thanks to the Cochrane Francophone Network) and Spanish (thanks to the Iberoamerican Cochrane Centre). At the moment, the collection includes reviews from several Cochrane Review Groups, including the Bone, Joint and Muscle Trauma Group; Depression, Anxiety and Neurosis Group; Infectious Diseases Group; Injuries Group; Renal Group and Wounds Group. It draws on knowledge gathered by the Chinese Cochrane Centre following the Sichuan earthquake of 2008.

Access to Evidence Aid resources: The summaries are available at

<http://www.cochrane.org/evidenceaid/haiti/index.html> and The Cochrane Library is freely available in the region through a variety of means: the Biblioteca Cochrane Plus at the BIREME portal thanks to the existing agreements between Update Software and PAHO, the access for low-income countries put in place by The Cochrane Collaboration and Wiley-Blackwell in 2008, and free one-click access that has been implemented by Wiley-Blackwell at this time. Furthermore, the PDF versions of all the highlighted Cochrane reviews are now available free to all on The Cochrane Library website (www.thecochranelibrary.com).

Contact: This Evidence Aid resource on the internet has been put together jointly by the UK Cochrane Centre, the Cochrane Editorial Unit, and the Cochrane.org web team. Cochrane Review Groups or others who would like to suggest additional material should contact Mike Clarke (mclarke@cochrane.ac.uk), Director of the UK Cochrane Centre.

New web-based cost conversion tool

Update your internet favourites/bookmarks!

The Campbell & Cochrane Economics Methods Group (CCEMG) and the Evidence for Policy and Practice Information and Co-ordinating Centre (EPPI-Centre) have launched a new web-based tool designed to automate adjustment of costs to a common target currency and price year. Version 1.0 is available now, online and free of charge to all users, at <http://eppi.ioe.ac.uk/costconversion/default.aspx>.

This web-based tool can be used in Cochrane reviews that aim to incorporate evidence on costs collected from included studies. Since included studies are usually conducted in different countries and at different times, estimates of costs will usually be expressed in different currencies and price years. In order for end users of reviews to make meaningful comparisons between estimates of costs collected from two or more studies, it is preferable for all such estimates to be expressed using a 'common metric'. This requires adjustment to a common currency and price

year (see also the Cochrane Handbook for Systematic Reviews of Interventions, Part 3, Chapter 15, Section 15.6, available from <http://www.cochrane-handbook.org>).

Full details of the development, underlying methods and data, user interface and applications of this web-based tool are described in an article published in the journal Evidence and Policy. This article should be read carefully before using the tool. It is available electronically via IngentaConnect, URL: <http://www.ingentaconnect.com/content/tpp/ep> and should be cited as:

Shemilt I, Thomas J, Morciano M. A web-based tool for adjusting costs to a specific target currency and price year. Evidence and Policy 2010; 6 (1): 51-59. Please direct all enquiries to Ian Shemilt (e-mail: i.shemilt@uea.ac.uk).

RevMan Tutorial for DTA reviews

We now have a tutorial for doing diagnostic test accuracy reviews in RevMan 5. It will be implemented in Review Manager in due time, but until then it can be found on: <http://ims.cochrane.org/revman/documentation>

HTAi IRG 2010 pre-conference workshop

Workshop: Optimising information retrieval methods for HTA - towards best practice

Date: 6 June 2010

Location: Dublin RDS, room TBA

Details: 100 Euros for HTAi members and non-members -



**XXIII International Congress
of The Transplantation Society**

AUGUST 15 - 19, 2010 | VANCOUVER, CANADA
VANCOUVER CONVENTION CENTRE

The Organizing Committee of the XXIII International Congress of The Transplantation Society is pleased to invite you to the leading international congress on transplantation biology and medicine which will be held in Vancouver, Canada from 15 - 19 August 2010. The groundbreaking translational program will draw together experts from around the world, and will encompass innovations in genomics and proteomics, molecular analyses of human diseases, innovations in biological and pharmacological immunosuppression and much more. Medical professionals in training or those in the early stages of their careers are strongly encouraged to attend the Post-Graduate Weekend which takes place as the opening to the main congress from 14 - 15 August 2010. The program is specifically designed for these individuals and is an excellent opportunity to obtain in-depth exposure to transplantation medicine. Vancouver is an exceptional location for the Congress and the new Vancouver Convention & Exhibition Centre a stunning, award-winning facility perched on the edge of the Pacific Ocean. For further information please visit the Congress Website at www.transplantation2010.org.

Cochrane Collaboration news (cont'd)

lunch and morning/afternoon tea included

The morning session will involve presentations outlining policy and practice of the Cochrane Collaboration, CADTH and the Norwegian Knowledge Centre for the Health Services, focusing on key issues of information retrieval such as which sources to search, limits to searches, updating searches and reporting the search process and the search strategies. These presentations will be interspersed with audience participation, reflecting on and comparing the presentations and adding experience from their own organisations.

The afternoon sessions will be devoted to searching trials registers, and key economic resources. Trials registers, results registers and other research registers are developing quickly and provide challenges in terms of identification, efficient searching and record management. This session will involve presentations accompanied by group discussion of several key trials registers, and will focus on the scope of the resources and approaches to structuring searches. The final session will include a presentation on key economic resources and methods of searching them followed by a structured group discussion of the relative value of the key resources, additional key resources and search approaches adopted by different teams.

Contact: Sari Ormstad, HTAI IRG Chair or Catherine Voutier, HTAI IRG Chair Elect

Email: sor@nokc.no OR catherine.voutier@med.monash.edu.au

Website: www.htai2010.org AND www.htai.org

GIN Conference 2010

Event: G-I-N Conference, hosted by the American College of Chest Physicians

Date: 25-28 August 2010

Location: Chicago Marriott Downtown Magnificent Mile, Chicago, Illinois USA

Details: The Guidelines International Network (G-I-N) Conference 2010 is an international effort to improve patient care through the development and implementation of clinical practice guidelines. The G-I-N Conference 2010 will bring together the various professionals involved in evidence synthesis, guideline development, implementation, quality improvement, and health policy to integrate knowledge and, ultimately, improve patient outcomes.

Website: <http://www.gin2010.org/>

Systematic reviews and meta-analyses course

Event: Short course - Systematic reviews and meta-analyses

of health research

Date: 6-10 September 2010

Location: London School of Hygiene & Tropical Medicine, UK

Details: This five day course will provide participants with a basis in the design, analysis and interpretation of systematic reviews of health research. Participants will be given grounding in all aspects involved in conducting a systematic review and meta-analysis, and will have the opportunity to gain practical experience of the tasks involved. By the end of the course participants will be equipped with the necessary skills to conduct their own high quality systematic reviews of health research.

For further details and to apply visit <http://www.lshtm.ac.uk/prospectus/short/ssrh.htm>.

First Joint Colloquium - Campbell and Cochrane

Join us for the First Joint Colloquium of the Campbell and Cochrane Collaborations

18 - 22 October 2010

Keystone, Colorado, USA

Registration is now open!

www.regonline.com/colloquium2010

Workshops: Over 100 hands-on workshops on topics such as social media, research methods, and meta-analysis.

Oral sessions: Select from 80 oral sessions on searching and information retrieval, consumer involvement, training and support, prioritization, methodological work (e.g. qualitative and quantitative synthesis), and editorial processes.

Poster sessions: View over 150 posters on education and training, global health and equity, statistical methods, and other topics.

International networking: 800-1200 attendees from leading research and policy-making organizations around the world.

Plenary sessions: Learn from experts on topics ranging from global crises to convincing skeptics, inclusion of low and middle income countries, and others.

Speakers: Internationally respected leaders in health and social sciences, including Patricia Schroeder (former U.S. Congresswoman from Colorado), Bob Wachter, M.D. (Professor and Associate Chairman of the Department of Medicine at the University of California, San Francisco and national leader in patient safety and healthcare quality), Ida Sims, MD, PhD. (Director, Center for Clinical and Translational Informatics, UCSF) and David Weisburd (holder of the Stockholm Prize for Criminology).

Social events: Join us for a Western style barn dance, opening gala, and the annual Jerry Lee lecture and reception. Join the Cochrane Collaboration half marathon team for the Rock 'n Roll Denver Half Marathon on 17 October!

For more information, please see the event website (www.regonline.com/colloquium2010).

We welcome your questions and will be pleased to provide additional information: please do not hesitate to contact the local organizer Robert Dellavalle MD, PhD, MSPH, by phone: +011 303.399.8020 x2475, or by email: Robert.Dellavalle@ucdenver.edu

Stipends application now open

Stipends application is now open for the Joint Cochrane and Campbell Colloquium, 18-22 Oct 2010, Keystone, Colorado. Stipends to cover travel, accommodation and registration to attend the Colloquium are available for contributors to The Cochrane Collaboration that are residents of developing countries or consumers. Detailed information on criteria and how to apply can be found on <http://www.regonline.com/colloquium2010>.

Deadline for submitting applications is 1 June 2010.

For any queries contact Caroline Rouse and Juliane Ried at consumerstipends@cochrane.org or dcstipends@cochrane.org.

Register of Diagnostic Test Accuracy (DTA) Studies

We are currently working on a number of projects relating to the Register.

Ruth Mitchell will be one of the facilitators at a two-day workshop for Trials Search Coordinators on Searching for Diagnostic Test Accuracy Studies, July 5-6, 2010, to be held in conjunction with the symposium "Methods for Evaluating Medical Tests and Biomarkers" July 1-2, 2010, Birmingham, UK.

The development of online education materials for Trials Search Coordinators and others on searching for DTA studies is progressing, and will be trialled at the Birmingham workshop.

Handsearching guidelines for identifying DTA studies in the journal literature are being developed and trialled in association with the Collaboration's Diagnostic Test Accuracy Working Group.

We have been lucky to gain the services of a third year Bachelor of Science student, Tom Rogerson, who has commenced 3 months work experience with the Cochrane Renal Group. He is spending one day a week contributing to the Register's growth by downloading studies for it from a variety of sources, such as non-Cochrane systematic reviews, and studies sent in by overseas collaborators, such as Dr Regina Kunz of the Basel Institute of Clinical Epidemiology and Biostatistics.

Recent abstracts

Hydroxyethyl starch (HES) versus other fluid therapies: effects on kidney function. Allison B Dart, Thomas C Mutter, Chelsea A Ruth, Shayne P Taback

Background

Hydroxyethyl starches (HES) are synthetic colloids commonly used for fluid resuscitation, yet controversy exists about their impact on kidney function.

Objectives

To examine the effects of HES on kidney function compared to other fluid resuscitation therapies in different patient populations.

Search strategy

We searched the Cochrane Renal Group's specialised register, the Cochrane Central Register of Controlled Trials (CENTRAL, in The Cochrane Library), MEDLINE, EMBASE, MetaRegister and reference lists of articles.

Selection criteria

Randomised controlled trials (RCTs) and quasi-RCTs in which HES was compared to an alternate fluid therapy for the prevention or treatment of effective intravascular volume depletion. Primary outcomes were renal replacement therapy (RRT), author-defined kidney failure and acute kidney injury (AKI) as defined by the RIFLE criteria. Secondary outcomes included serum creatinine and creatinine clearance.

Data collection and analysis

Screening, selection, data extraction and quality assessments for each retrieved article were carried out by two authors using standardised forms. Authors were contacted when published data were incomplete. Preplanned sensitivity and subgroup analyses were performed after data were analysed with a random effects model.

Main results

The review included 34 studies (2607 patients). Overall, the RR of author-defined kidney failure was 1.50 (95% CI 1.20 to 1.87; n = 1199) and 1.38 for requiring RRT (95% CI 0.89 to 2.16; n = 1236) in HES treated individuals compared with other fluid therapies. Subgroup analyses suggested increased risk in septic patients compared to non-septic (surgical/trauma) patients. Non-septic patient studies were smaller and had lower event rates, so subgroup differences may have been due to lack of statistical power in these studies. Only limited data was obtained for analysis of kidney outcomes by the RIFLE criteria. Overall, methodological quality of studies was good but subjective outcomes were potentially biased because most studies were unblinded.

Recent abstracts (cont'd)

Authors' conclusions

Potential for increased risk of AKI should be considered when weighing the risks and benefits of HES for volume resuscitation, particularly in septic patients. Large studies with adequate follow-up are required to evaluate the renal safety of HES products in non-septic patient populations. RIFLE criteria should be applied to evaluate kidney function in future studies of HES and, where data is available, to re-analyse those studies already published. There is inadequate clinical data to address the claim that safety differences exist between different HES products.

Interventions for bone disease in children with chronic kidney disease. Denis F Geary, Elisabeth M Hodson, Jonathan C Craig

Background

Bone disease is common in children with chronic kidney disease (CKD) and when untreated may result in bone deformities, bone pain, fractures and reduced growth rates.

Objectives

To investigate the benefits and harms of interventions for preventing and treating bone disease in children with CKD.

Search strategy

The Cochrane Renal Group's specialised register, the Cochrane Central Register of Controlled Trials, MEDLINE, EMBASE, reference lists and abstracts were searched without language restriction.

Selection criteria

Randomised controlled trials (RCTs) comparing different interventions used to prevent or treat bone disease in children with CKD stages 2-5D compared with placebo, no treatment or other agents were included. Studies examining different routes or frequency of treatment were also included.

Data collection and analysis

Data were extracted by two authors. The random-effects model was used and results were reported as risk ratios or risk differences for dichotomous outcomes and mean differences for continuous outcomes with 95% confidence intervals.

Main results

Fifteen RCTs (369 children) were identified. Compared with oral calcitriol, intraperitoneal calcitriol significantly reduced the level of serum parathyroid hormone (PTH) but there were no significant differences in bone histology or other biochemical measures (2 RCTs). There were no significant differences detected in growth, PTH, serum calcium or phosphorus between daily versus intermittent calcitriol (3 RCTs). Vitamin D therapy significantly reduced PTH levels

compared with placebo or no treatment. The number of children with hypercalcaemia did not differ significantly between groups (4 RCTs). No significant differences were detected in growth rates, bone histology or biochemical parameters between calcitriol and either dihydrotachysterol or ergocalciferol (2 RCTs). Though fewer episodes of hypercalcaemia were reported with sevelamer, no significant differences were detected in serum calcium, phosphorus and PTH levels between calcium-containing phosphate binders and either aluminium hydroxide or sevelamer (4 RCTs).

Authors' conclusions

Bone disease, assessed by changes in PTH levels, is improved by all vitamin D preparations. However no consistent differences between routes of administration, frequencies of dosing or vitamin D preparations have been demonstrated. Though fewer episodes of high calcium levels occurred with the non calcium-containing binder, sevelamer, compared with calcium-containing binders, there were no differences in serum phosphorus and calcium overall and phosphorus values were reduced to similar extents. All RCTs were small with few data available on patient-centred outcomes (growth, bone deformities) and limited data on biochemical parameters resulting in considerable imprecision of results thus limiting the applicability to care of children with CKD.

Interventions for preventing infectious complications in haemodialysis patients with central venous catheters. Margaret McCann, Zena EH Moore

Background

Central venous catheters (CVC) continue to play a prominent role in haemodialysis vascular access with 46% to 70% of patients commencing haemodialysis via a CVC. CVC access is associated with catheter-related infections, increased patient hospitalisations and death due to infection. A variety of interventions are used to prevent CVC infection.

Objectives

To evaluate the benefits and harms of prophylactic topical antimicrobials, topical antiseptics, medicated and non-medicated dressings on infectious complications among haemodialysis patients with CVC.

Search strategy

We searched the Cochrane Renal Group's specialised register, the Cochrane Central Register of Controlled Trials (CENTRAL), MEDLINE, EMBASE and reference lists of articles without language restriction.

Selection criteria

We included randomised controlled trials (RCTs) and

Recent abstracts (Cont'd)

quasi-RCTs investigating any intervention that prevented infectious complications among haemodialysis patients with CVC. We excluded antimicrobial impregnated CVC or CVC using locking solutions with antimicrobial properties.

Data collection and analysis

Two authors assessed study quality and extracted data. Dichotomous outcomes were expressed as risk ratios (RR) with 95% confidence intervals (CI) and continuous outcomes as mean differences (MD).

Main results

Ten studies (786 patients) were included. Mupirocin ointment reduced the risk of catheter-related bacteraemia (RR 0.17, 95%CI 0.07 to 0.43) and had a significant effect on catheter-related infections caused by *S. aureus*. The risk of catheter-related bacteraemia was reduced by polysporin (RR 0.40, 95%CI 0.19 to 0.86) and povidone-iodine ointment (RR 0.10, 95%CI 0.01 to 0.72). Subgroup analysis suggested mupirocin (RR 0.12, 95%CI 0.01 to 2.13) and povidone-iodine ointment (RR 0.84, 95%CI 0.24 to 2.98) had no effect on all-cause mortality while polysporin ointment showed a significant reduction (RR 0.22, 95%CI 0.07 to 0.74). Mortality related to infection was not reduced by mupirocin, polysporin or povidone-iodine ointment. Topical honey did not reduce the risk of exit site infection (RR 0.45, 95%CI 0.10 to 2.11) or catheter-related bacteraemia (RR 0.80, 95%CI 0.37 to 1.73). Transparent polyurethane dressing compared to dry gauze dressing did not reduce the risk of CVC or exit site infection, or catheter-related bacteraemia.

Authors' conclusions

Mupirocin ointment appears effective in reducing the risk of catheter-related bacteraemia. Insufficient reporting on mupirocin resistance was noted and needs to be considered in future studies. A lack of high quality data on the routine use of povidone-iodine ointment, polysporin ointment and topical honey warrant larger RCTs. Insufficient data were available to determine which dressing type (transparent polyurethane or dry gauze dressing) has the lowest risk of catheter-related infections.

Nutritional support for acute kidney injury. Yi Li, Xi Tang, Jujian Zhang, Taixiang Wu

Background

Treatment for acute kidney injury (AKI) primarily relies on treating the underlying cause and maintaining the patient until kidney function has recovered. Enteral and parenteral nutrition are commonly used to treat nutritional disorders in AKI patients, however their efficacy in treating AKI are still debated.

Objectives

To evaluate the effectiveness and safety of nutritional support for patients with AKI.

Search strategy

We searched the Cochrane Central Register of Controlled Trials (CENTRAL), MEDLINE, EMBASE, Chinese Biomedical Disc, VIP and China National Knowledge Infrastructure (CNKI).

Selection criteria

All randomised controlled trials (RCTs) reported for AKI and nutrition were included.

Data collection and analysis

Review authors independently assessed study quality and extracted data. Results were expressed as risk ratio (RR) with 95% confidence intervals (CI) or mean difference (MD).

Main results

Eight studies (257 participants) were included. An overall pooled analysis was not performed due to the different interventions used and different outcomes measured. There was a significant increase in recovery rate for AKI (RR 1.70, 95% CI 1.70 to 2.79) and survival in dialysed patients (RR 3.56, 95% CI 0.97 to 13.08) for intravenous essential L-amino acids (EAA) compared to hypertonic glucose alone. Compared to lower calorie-total parenteral nutrition (TPN), higher calorie-TPN did not improve estimated nitrogen balance, protein catabolic rate, or urea generation rate, but increased serum triglycerides, glucose, insulin need and nutritional fluid administration. There was no difference between groups in estimated nitrogen balance, but there were differences between urea nitrogen appearance (MD 0.98, 95% CI 0.25 to 1.71) and net protein utili-

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sation (MD 21.50%, 95% CI 0.39 to 42.61). Urea nitrogen appearance was lower in the low nitrogen intake group than in the high nitrogen intake group. There was no significant difference in death between EAA and general amino acids (GAA) (RR 1.52, 95% CI 0.63 to 3.68). High dose amino acids did not improve cumulative water excretion, furosemide requirement, nitrogen balance or death compared to normal dose amino acids. Glucose+EAA+histidin had better nitrogen balance than glucose+GAA; glucose+nitrogen+fat significantly increased serum creatinine compared with glucose+GAA; glucose+EAA+histidin significantly improved nitrogen balance, U/P urea and serum creatinine, but increased plasma urea compared to glucose+nitrogen+fat.

Authors' conclusions

There is not enough evidence to support the effectiveness of nutritional support for AKI. Further high quality studies are required to provide reliable evidence of the effect and safety of nutritional support.

Interleukin 2 receptor antagonists for kidney transplant recipients. Angela C Webster, Lorenn P Ruster, Richard McGee, Sandra L Matheson, Gail Y Higgins, Narelle S Willis, Jeremy R Chapman, Jonathan C Craig

Background

Interleukin 2 receptor antagonists (IL2Ra) are used as induction therapy for prophylaxis against acute rejection in kidney transplant recipients. Use of IL2Ra has increased steadily since their introduction, but the proportion of new transplant recipients receiving IL2Ra differs around the globe, with 27% of new kidney transplant recipients in the United States, and 70% in Australasia receiving IL2Ra in 2007.

Objectives

To systematically identify and summarise the effects of using an IL2Ra, as an addition to standard therapy, or as an alternative to another immunosuppressive induction strategy.

Search strategy

We searched the Cochrane Renal Group's specialised register, Cochrane Central Register of Controlled Trials (CENTRAL), MEDLINE and EMBASE to identify new records, and authors of included reports were contacted for clarification where necessary.

Selection criteria

Randomised controlled trials (RCTs) in all languages comparing IL2Ra to placebo, no treatment, other IL2Ra or other antibody therapy.

Data collection and analysis

Data was extracted and assessed independently by two authors, with differences resolved by discussion. Dichotomous outcomes are reported as relative risk (RR) and continuous outcomes as mean difference (MD) with 95% confidence intervals (CI).

Main results

We included 71 studies (306 reports, 10,520 participants). Where IL2Ra were compared with placebo (32 studies; 5,854 patients) graft loss including death with a functioning graft was reduced by 25% at six months (16 studies: RR 0.75, 95% CI 0.58 to 0.98) and one year (24 studies: RR 0.75, 95% CI 0.62 to 0.90), but not beyond this. At one year biopsy-proven acute rejection was reduced by 28% (14 studies: RR 0.72, 95% CI 0.64 to 0.81), and there was a 19% reduction in CMV disease (13 studies: RR 0.81, 95% CI 0.68 to 0.97). There was a 64% reduction in early malignancy within six months (8 studies: RR 0.36, 95% CI 0.15 to 0.86), and creatinine was lower (7 studies: MD -8.18 $\mu\text{mol/L}$ 95% CI -14.28 to -2.09) but these differences were not sustained.

When IL2Ra were compared to ATG (18 studies, 1,844 participants), there was no difference in graft loss at any time point, or for acute rejection diagnosed clinically, but there was a benefit of ATG therapy over IL2Ra for biopsy-proven acute rejection at one year (8 studies: RR 1.30 95% CI 1.01 to 1.67), but at the cost of a 75% increase in malignancy (7 studies: RR 0.25 95% CI 0.07 to 0.87) and a 32% increase in CMV disease (13 studies: RR 0.68 95% CI 0.50 to 0.93). Serum creatinine was significantly lower for IL2Ra treated patients at six months (4 studies: MD -11.20 $\mu\text{mol/L}$ 95% CI -19.94 to -2.09). ATG patients experienced significantly more fever, cytokine release syndrome and other adverse reactions to drug administration and more leucopenia but not thrombocytopenia. There were no significant differences in outcomes according to cyclosporine or tacrolimus use, azathioprine or mycophenolate, or to the study populations baseline risk for acute rejection. There was no evidence that effects were different according to whether equine or rabbit ATG was used.

Authors' conclusions

Given a 38% risk of rejection, per 100 recipients compared with no treatment, nine recipients would need treatment with IL2Ra to prevent one recipient having rejection, 42 to prevent one graft loss, and 38 to prevent one having CMV disease over the first year post-transplantation. Compared with ATG treatment, ATG may prevent some experiencing acute rejection, but 16 recipients would need IL2Ra to prevent one having CMV, but 58 would need IL2Ra to prevent one having malignancy. There are no apparent differences between basiliximab and daclizumab. IL2Ra are as effective as other antibody therapies and with significantly fewer side effects.

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