



Cochrane Renal Group Newsletter

June 2011

Renal group news

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New Assistant Managing Editor and Clinical Guidelines Support Officer



Ann Jones

On behalf of the Cochrane Renal Group Editorial Team and Advisory Board, we would like to welcome Ann Jones to the Renal Group.

Ann is an editor in the health sector with 20 years experience, library and information worker qualifications, and nursing experience. She has practical skills and knowledge in the development of scientific and clinical documentation and in all aspects of associated administrative requirements.

Ann's experience includes working in community-based health organisations, professional organisations, the tertiary education sector, and corporate settings. She has participated in projects and collaborated with colleagues nationally and internationally to develop world class outcomes with the aim of enhancing the health and well being of communities globally.

Having contributed to several major systematic literature reviews, Ann is familiar with the work of the Cochrane Collaboration, as evidence from Cochrane reviews has often provided the foundation for further and broader enquiry for many of these projects.

New Editors

We look forward to working with the following three new Editors who joined the Cochrane

Renal Group Editorial Board in the last six months:



David Mudge

David's current appointments include full-time Consultant Nephrologist at Princess Alexandra Hospital in Brisbane and Visiting Nephrologist at

Redland Hospital, including responsibility for a 12-station satellite haemodialysis unit. He cares for patients with all stages of chronic kidney disease as well as dialysis patients and kidney transplant recipients.

David is currently a member of the Medical & Scientific Advisory Committee for Kidney Health Australia, a member of the CARI Guidelines Steering Committee, and the Coordinator of Postgraduate Education for the Scientific Program and Education Committee of the ANZSN.

His research interests include iron status and iron supplementation in CKD and transplant patients, peritoneal dialysis outcomes, and

Inside this issue:

<i>Renal group news</i>	1
<i>New reviews</i>	2
<i>Collaboration news</i>	4
<i>Upcoming workshops</i>	4
<i>Recent abstracts</i>	5
<i>Conferences</i>	7
<i>Membership form</i>	13

Renal group news (cont'd)

the use of honey to prevent infections in dialysis patients, and he has published widely in nephrology including several randomised, controlled trials and the first international guideline on the treatment of ANCA-associated vasculitis.

David is also involved in the education of nephrology trainees, particularly in promoting the use of ultrasound and other procedures amongst the next generation of nephrologists.

Emmanuel Effa is a Nephrologist at the University Teaching Hospitals in Calabar and Uyo both in Southern Nigeria with interests in preventive nephrology and haemodialysis.



He was a pioneer participant at the Reviews for Africa programme held at the South African Cochrane Centre, Cape Town in 2005 and presently coordinates training in evidence based medicine and research synthesis at the Nigerian branch of the South African Cochrane Centre in Calabar.



Suetonia Palmer is an academic nephrologist at the University of Otago at Christchurch in New Zealand. She studied medicine at the University of Otago, graduating in 1995. She became a Fellow of the Royal Australasian College of Physicians in Nephrology in 2005. She completed a PhD in 2010 on the link between kidney function and heart health and a 2-year post-doctoral fellowship in Boston at the Brigham and Women's Hospital.

Suetonia began as an author with the Cochrane Renal Group in 2004 during her training to become a Nephrologist. Through systematic reviews, she discovered a passion for understanding more about the amount and quality of evidence we have to make good clinical decisions in Nephrology. She is actively engaged in the conduct of systematic reviews of interventions (the treatments we use), prognosis (whether risk factors for disease link to important outcomes), and trial quality (how good is the evidence on which to base our decisions).

Suetonia enjoys training others in systematic review and meta-analysis using an evidence-based approach to research. She has strong collaborative links with researchers in Italy, Australia, Europe and North America with an increasing research output including recent editorialised

publications on key internal medicine and nephrology journals.

Suetonia lives with her husband Andrew in Christchurch, New Zealand, on a small farm.

Diagnostic Test Register—Update

A detailed proposal was submitted to Elsevier, in collaboration with members of the DTA Register Reference Group, regarding the need for better ways to identify diagnostic test accuracy studies in EMBASE. This resulted in the introduction to EMBASE of a new *diagnostic test accuracy study* check tag in early December 2010.

e-TOC (electronic Table of Contents)

The Cochrane Renal Group produces a regular e-TOC of titles and weblinks of recently published Cochrane reviews (which are either specific Kidney related reviews or of general interest).

The latest e-TOC is available on our website under 'What's New' <http://www.cochrane-renal.org/whatsnew.php>

New reviews, protocols and titles

New and updated reviews

In Issues 11-12, 2010 and Issues 1-6, 2011 we published six new reviews and three updated reviews:

New

- Altered dietary salt intake for preventing and treating diabetic kidney disease
- Education programmes for people with diabetic kidney disease
- Human albumin for intradialytic hypotension in haemodialysis patients
- Interventions for treating sexual dysfunction in patients with chronic kidney disease
- Non-immunosuppressive treatment for IgA nephropathy
- Phosphate binders for preventing and treating bone disease in chronic kidney disease patients

Renal group news (cont'd)

Updated

- Interventions for idiopathic steroid-resistant nephrotic syndrome in children
- Interventions for primary vesicoureteric reflux
- Long-term antibiotics for preventing recurrent urinary tract infection in children

New protocols

In Issues 11-12, 2010 and Issues 1-6, 2011 we published nine new protocols:

New

- Adjunctive medical expulsive therapy for kidney and ureteral stone fragments following shock wave lithotripsy
- Angiotensin converting enzyme inhibitors and angiotensin II receptor blockers for preserving residual kidney function in peritoneal dialysis patients
- Antibody induction therapy for lung transplant recipients
- Antiplatelet agents for chronic kidney disease
- HMG CoA reductase inhibitors (statins) for preventing acute kidney injury after surgical procedures requiring cardiac bypass
- Loop diuretics for acute kidney injury in adults and children
- Procalcitonin, C-reactive protein, and erythrocyte sedimentation rate for the diagnosis of acute pyelonephritis in children
- Tacrolimus versus cyclosporin as primary immunosuppression for lung transplant recipients
- Topical corticosteroids for treating phimosis in boys

New titles

- Altered dietary salt intake for chronic kidney disease
- Antibiotics for acute pyelonephritis in adults
- Calcium channel blockers as medical expulsive therapy for ureteric stones
- Dietary interventions for lowering cholesterol in dialysis patients
- Dietary interventions for preventing and treating bone disease in chronic kidney disease
- Dopamine for preventing early graft dysfunction in kidney transplant recipients
- Early/emergency versus delayed shock wave lithotripsy for symptomatic ureteral stones

- Educational interventions for metabolic bone disease in patients with chronic kidney disease
- Exercise and dietary programmes for solid organ transplant recipients
- Fenoldapam for preventing and treating acute kidney injury
- Home versus in-centre haemodialysis for end-stage kidney disease
- Interventions for chronic kidney disease-associated restless legs syndrome
- Interventions for implementing evidence-based medicine in renal clinical practice
- L-carnitine supplements for people with end-stage kidney disease requiring haemodialysis
- Screening with multidagnostic urinary dipsticks for reducing morbidity and mortality
- Single dose antibiotics for treating urinary tract infection in children
- Subcutaneous versus intravenous erythropoietin for long-term dialysis patients
- Supine versus prone positioning for percutaneous nephrolithotripsy (PNL)
- Target of rapamycin inhibitors (TORi) for preventing the progression of autosomal-dominant polycystic kidney disease (ADPKD)
- Uric acid lowering therapies for chronic kidney disease
- Vitamin B and/or its derivatives for diabetic kidney disease
- Vitamin D supplements: incidence of kidney stones

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)

Cochrane Collaboration news

2011 Australasian Cochrane Symposium,

1 July, Melbourne

This year's Australasian Cochrane Symposium will take place on Friday 1 July in Melbourne. The theme of the Symposium is Evidence, Communication and Impact. Presentations will focus on enhancing the usefulness of reviews and communicating evidence to different audiences. The line-up includes prominent local and international speakers, workshops and contributed paper sessions - please see www.cochrane.org.au/symposium for more details. Early registration (\$150) closes on 12 June.

Developing a Cochrane Systematic Review workshop

13 - 15 July 2011

Location: Baltimore, Maryland (USA)

Details: This workshop guides participants through the steps of developing a systematic review and includes presentations about Cochrane methodology and hands-on practice using The Cochrane Collaboration's Review Manager (RevMan) software. Priority registration given for those interested in contributing to the Cochrane Eyes and Vision Group. Those with Cochrane registered titles, protocols, and reviews as well as those interested in learning more about systematic reviews are also accepted, space permitting.

Contact: Lisa Lassiter

Email: uscevg@jhsp.edu

Website: <http://eyes.cochrane.org/workshop-developing-systematic-review>

Systematic Review Workshop - USA

13 - 15 July 2011

Location: Baltimore, Maryland (USA)

Details: This workshop guides participants through the steps of developing a systematic review and includes presentations about Cochrane methodology and hands-on practice using the Cochrane Collaboration's Review Manager (RevMan) software. Priority registration given for those interested in contributing to the Cochrane Eyes and Vision Group. Those with Cochrane registered titles, protocols, and reviews as well as those interested in learning more about systematic reviews are also accepted, space permitting.

Contact: Lisa Lassiter

Email: uscevg@jhsp.edu

Website: <http://eyes.cochrane.org/workshop-developing-systematic-review>

Systematic reviews and meta-analyses of health research

Event: Short course - Systematic reviews and meta-analyses of health research

5-9 September 2011

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.html>.

Author Workshop - Amsterdam

Event: Workshop for Authors of Cochrane Systematic Reviews of Diagnostic Test Accuracy

29-30 September 2011

Location: Amsterdam Medical Center, Amsterdam, The Netherlands

Details: This is a two-day workshop run by members of the Cochrane Diagnostic Test Accuracy Working Group for Cochrane review authors who are planning to do a Cochrane diagnostic test accuracy review (SRDTA). The objective of the workshop is to train them to prepare and conduct an SRDTA.

Contact: Hanni Spitteler

Email: cochrane@amc.uva.nl

Website: <http://srdta.cochrane.org/workshops-and-events>

Upcoming workshops 2011

Australasian Cochrane Centre/

Sydney

July 7 & 8 Introduction to Writing a Cochrane Review

Sydney

Dec 1 & 2 Introduction to Writing a Cochrane Review

For further information on Australasian workshops please go to:

<http://acc.cochrane.org/timetable-registration>

Recent abstracts

Altered dietary salt intake for preventing and treating diabetic kidney disease.

Rebecca J Suckling, Feng J He, Graham A MacGregor

Background

There is strong evidence that our current consumption of salt is a major factor for increased blood pressure (BP) and a modest reduction in salt intake lowers BP whether BP levels are normal or raised. Tight control of BP in diabetics lowers the risk of strokes, heart attacks and heart failure and slows the progression of diabetic kidney disease (DKD). Currently there is no consensus in restricting salt intake in diabetic patients.

Objectives

To evaluate the effect of altered salt intake on BP and markers of cardiovascular disease and DKD.

Search strategy

In January 2010, we searched the Cochrane Renal Group's Specialised Register, CENTRAL (in The Cochrane Library), MEDLINE (from 1966) and EMBASE (from 1980) to identify appropriate articles.

Selection criteria

We included all randomised controlled trials of salt reduction in individuals with type 1 and type 2 diabetes.

Data collection and analysis

Two authors independently assessed studies and resolved differences by discussion with a third independent author. We calculated mean effect sizes using both the fixed-effect and random-effects models.

Main results

Thirteen studies (254 individuals) met our inclusion criteria. These included 75 individuals with type 1 diabetes and 158 individuals with type 2 diabetes. The median reduction in urinary sodium was 203 mmol/24 h (11.9 g/day) in type 1 diabetes and 125 mmol/24 h (7.3 g/day) in type 2 diabetes. The median duration of salt restriction was one week in both type 1 and type 2 diabetes. BP was reduced in both type 1 and type 2 diabetes. In type 1 diabetes (56 individuals), salt restriction reduced BP by -7.11/-3.13 mm Hg (systolic/diastolic); 95% CI: systolic BP (SBP) -9.13 to -5.10; diastolic BP (DBP) -4.28 to -1.98). In type 2 diabetes (56 individuals), salt restriction reduced BP by -6.90/-2.87 mm Hg (95% CI: SBP -9.84 to -3.95; DBP -4.39 to -1.35). There was a greater reduction in BP in normotensive patients, possibly due to a larger decrease in salt intake in this group.

Authors' conclusions

Although the studies are not extensive, this meta-analysis

shows a large fall in BP with salt restriction, similar to that of single drug therapy. All diabetics should consider reducing salt intake at least to less than 5-6 g/day in keeping with current recommendations for the general population and may consider lowering salt intake to lower levels, although further studies are needed.

Education programmes for people with diabetic kidney disease.

Ting Li, Hong Mei Wu, Feng Wang, Chang Quan Huang, Ming Yang, Bi Rong Dong, Guan J Liu

Background

Adherence to complex regimens for patients with diabetic kidney disease (DKD) is often poor. Interventions to enhance adherence require intensive education and behavioural counselling. However, whether the existing evidence is scientifically rigorous and can support recommendations for routine use of educational programmes in DKD is still unknown.

Objectives

To evaluate the benefits and harms of education programmes for people with DKD.

Search strategy

In January 2010 we searched the Cochrane Renal Group's Specialised Register, CENTRAL, MEDLINE, EMBASE and four Chinese medicine databases (CBM-disc, Chinese Science and Technique Journals Database, China National Infrastructure and WanFang).

Selection criteria

All randomised controlled trials (RCTs) and quasi-RCTs studying the benefits and harms of educational programmes for people with DKD.

Data collection and analysis

Two authors independently searched the literature, determined study eligibility, assessed quality, extracted and entered data. We expressed dichotomous outcomes as risk ratios (RR) with 95% confidence intervals (CI) and continuous data as mean difference (MD) or standardised mean differences (SMD). Data were pooled using the random effects model.

Main results

Two studies (207 patients) were eligible. The methodological quality was not high. Compared with no educational programmes, educational programmes for patients with diabetes on dialysis improved patients' knowledge for the following outcomes: diagnosis (SMD 1.14, 95% CI 0.93 to 1.90); monitoring (SMD 1.51, 95% CI 1.0 to 2.01); hypoglycaemia (SMD 1.67, 95% CI 1.16 to 2.17), hyperglycaemia (SMD 0.80, 95% CI 0.35 to 1.25); medication with insulin (SMD 1.21, 95% CI 0.74 to 1.68); oral medication (SMD 0.98, 95% CI 0.52 to 1.43); personal

Recent abstracts (Cont'd)

health habits (SMD 1.84, 95% CI 1.33 to 2.36); diet (SMD 0.53, 95% CI 0.09 to 0.97); exercise (SMD 1.13, 95% CI 0.67 to 1.60); chronic complications (SMD 1.28, 95% CI 0.80 to 1.75) and living with diabetes and coping with stress (SMD 0.71, 95% CI 0.26 to 1.15). For patients with diabetes and microalbuminuria, educational programmes improved general knowledge for the following outcomes: diabetes (SMD 0.84, 95% CI 0.43 to 1.26); patients' total self-efficacy (MD 19.00, 95% CI 12.58 to 25.42) and patients' changes in beliefs on treatment effectiveness (MD 0.25, 95% CI 0.07 to 0.43) at the end of treatment, and general knowledge (MD 14.39, 95% CI 7.45 to 21.33); specific self-efficacy in home blood glucose monitoring (HBGM) (MD 11.28, 95% CI 1.92 to 20.64) and changes of beliefs on personal control (MD 0.31, 95% CI 0.01 to 0.61) at the end of three-months follow-up. For patients with diabetes on dialysis, educational programmes also showed improvement in the following self-management behaviours: checking feet (RR 1.63, 95% CI 1.01 to 2.63); using lotion (RR 9.71, 95% CI 2.45 to 38.56) and wearing appropriate shoes and socks (RR 4.39, 95% CI 1.87 to 10.32). For patients with diabetes and microalbuminuria, educational programmes improved the following behaviours: general diet (MD 0.73, 95% CI 0.10 to 1.36), specific diet (MD 1.02, 95% CI 0.42 to 1.62) and HBGM (MD 2.13, 95% CI 1.18 to 3.08) at the end of treatment; and specific diet (MD 0.62, 95% CI 0.18 to 1.06) and HBGM (MD 1.48, 95% CI 0.48 to 2.48) at the end of three-months follow-up. No data were available on changes in kidney function, incidence of cardiovascular events, change of patients' attitude or adverse events.

Authors' conclusions

Education programmes appear to have beneficial effects on improving patients' knowledge of diabetes and some self-management behavioural changes for patients with diabetes on dialysis or with microalbuminuria. Educational programmes appear to have beneficial effects on improving patients' self-efficacy and result in some beliefs changes for patients with diabetes and microalbuminuria. However, only two studies with small sample sizes and inadequate quality were included in this review. There is, therefore, inadequate evidence to support the beneficial effects of education programmes for people with DKD.

Human albumin for intradialytic hypotension in haemodialysis patients.

Patricia M Fortin, Ken Bassett, Vijaya M Musini

Background

Intradialytic hypotension (IDH) occurs in 20% to 55% of haemodialysis sessions and is more frequent among patients on long-term haemodialysis. Symptomatic IDH is generally defined as a decrease in systolic blood pressure

(BP) of at least 10 mm Hg or a systolic BP less than 100 mm Hg, with symptoms such as cramps, nausea, vomiting, and dizziness. IDH is managed acutely by volume expansion through the intravenous administration of fluids.

Objectives

To compare the benefits and harms of volume expansion with human albumin, alone or in combination with crystalloid or non-protein colloids, for treating IDH in haemodialysis patients.

Search strategy

The Cochrane Renal Group's Specialised Register and the Cochrane Central Register of Controlled Trials (CENTRAL) (The Cochrane Library 2010, Issue 9) MEDLINE (1966 to Oct 2009), and EMBASE (1980 to Oct 2009) were searched.

Selection criteria

Randomised controlled trials (RCTs), quasi-RCTs as well as randomised crossover studies were to be included.

Data collection and analysis

Two authors independently extracted data and assessed trial quality. Relative risk (RR) was to be used to analyse dichotomous variables and mean difference (MD) used to analyse continuous variables.

Main results

One double blind randomised crossover trial met the inclusion criteria and compared 5% albumin to normal saline in patients with a previous history of IDH. Results from 45 assessable participants did not lead to rejection of the null hypothesis of no difference between 5% albumin and normal saline in the primary outcome measure of percentage target ultrafiltration achieved, nor in 11/12 secondary outcomes. Additional (unblinded) saline was given less often when 5% albumin was used compared with saline (16% versus 36%, $P = 0.04$). However, the volume of additional fluid administered was similar in both groups. There were no significant differences in the nursing time required to treat IDH and the time to restore BP.

Authors' conclusions

No randomised or controlled trial was identified comparing albumin to crystalloids (other than normal saline) or non-protein colloids, or a combination of both, in the treatment of symptomatic hypotension during dialysis. One double blind crossover RCT in 45 assessable patients showed that 5% albumin is not superior to normal saline for the treatment of symptomatic hypotension in maintenance haemodialysis patients with

Recent abstracts (Cont'd)

a previous history of IDH. Given the cost and relative rarity of albumin use compared to saline, saline should be first line of therapy for treatment of IDH in stable dialysis patients.

Interventions for primary vesicoureteric reflux. Evi VT Nagler, Gabrielle Williams, Elisabeth M Hodson, Jonathan C Craig

Background

Vesicoureteric reflux (VUR) results in urine passing retrograde up the ureter. Urinary tract infections (UTI) associated with VUR have been considered a cause of permanent renal parenchymal damage in children with VUR. Management of these children has been directed at preventing UTI by antibiotic prophylaxis and/or surgical correction of VUR. The optimum strategy is not clear.

Objectives

To evaluate the benefits and harms of different treatment options for primary VUR.

Search strategy

In August 2010 we searched CENTRAL, MEDLINE and EMBASE and screened reference lists of papers and abstracts from conference proceedings.

Selection criteria

RCTs in any language comparing any treatment of VUR including surgical or endoscopic correction, antibiotic prophylaxis, non-invasive non-pharmacological techniques and any combination of therapies.

Data collection and analysis

Two authors independently searched the literature, determined study eligibility, assessed quality, extracted and entered data. We expressed dichotomous outcomes as risk ratios (RR) and their 95% confidence intervals (CI) and continuous data as mean differences (MD) and their 95% CI's Data were pooled using the random effects model.

Main results

Twenty RCTs (2324 children) were included. Long-term low-dose antibiotic prophylaxis compared to no treatment/placebo did not significantly reduce repeat symptomatic UTI (846 children: RR 0.68, 95% CI 0.39 to 1.17) or febrile UTI (946 children: RR 0.77, 95% CI 0.47 to 1.24) at two years. There was considerable heterogeneity in the analyses and only one study was adequately blinded. At one to three years, antibiotic prophylaxis reduced the risk of new or progressive renal damage on DMSA scan (446 children: RR 0.35, 95% CI 0.15 to 0.80). Side effects were infrequent when reported, but antibiotics increased the likelihood of bacterial drug resistance threefold (132 UTIs: RR 2.94, 95%



Conferences 2011 – 2012



June 23-26, 2011

XLVIII ERA-EDTA Congress, Prague, Czech Republic
www.eraedta2011.org

June 29-July 1, 2011

2011 TSANZ Annual Scientific Meeting
Manning Clark Centre on the ANU Campus, Canberra, ACT.
www.tsanz.com.au/meetings/index.asp

August 28-31, 2011

8th G-I-N conference,
Seoul, Korea - Incheon Memorial Hall, Korea University
www.g-i-n.net/events/8th-conference

September 22-25, 2011

ISN Forefronts Symposium, Aarhus, Denmark.
www.isnforefronts.org/2011/

October 19-21, 2011

19th Annual Cochrane Colloquium 2011, Madrid, Spain
www.cochrane.org/events/cochrane-collaboration-calendar/19th-annual-cochrane-colloquium-2011-madrid-spain

November 8-13, 2011

ASN Renal Week, Philadelphia, Pennsylvania, USA
www.asn-online.org

December 1-4, 2011

The 4th International Conference on Treatment of Hypertension, Dyslipidemia and Diabetes Mellitus, Paris, France. www.fixedcombination.com/2011

May 24-27, 2012

49th ERA-EDTA Congress, Paris, France.
www.eraedta2012.org

September 9– 12, 2012

14th Congress of the International Society of Peritoneal Dialysis, Kuala Lumpur, Malaysia.
www.ispd2012.org.my

October 30, 2012 to November 4, 2012

ASN Renal Week, San Diego, California, USA.
www.asn-online.org

Recent abstracts (Cont'd)

CI 1.39 to 6.25).

When long-term antibiotic prophylaxis was compared with surgical or endoscopic correction of VUR plus antibiotics for one to 24 months (10 studies, 1141 children), the risk of symptomatic UTI was not significantly different at any time point. Combined surgical and antibiotic treatment caused a 57% reduction in febrile UTI by five years (2 studies, 449 children: RR 0.43, 95% CI 0.27 to 0.70) but did not decrease the risk of new or progressive renal damage at any time point. Postoperative obstruction was seen in 0% and 7% of children in two surgical studies and 0% in one endoscopic study.

Authors' conclusions

Compared with no treatment, use of long-term, low-dose antibiotics did not significantly reduce the number of repeat symptomatic and febrile UTIs in children with VUR. Considerable heterogeneity in the analyses and inclusion of only one adequately blinded study, made drawing firm conclusions challenging. Antibiotic prophylaxis significantly reduced the risk of developing new or progressive renal damage, but assuming an 8% baseline risk, 33 children would need long-term antibiotic prophylaxis to prevent one more child developing kidney damage over the course of two to three years.

The added benefit of surgical or endoscopic correction of VUR over antibiotic treatment alone remains unclear. Eight children would require combined surgical and antibiotic treatment to prevent one additional child developing febrile UTI by five years, but it would not cause fewer children developing renal damage.

Interventions for treating sexual dysfunction in patients with chronic kidney disease.

Mariacristina Vecchio, Sankar D Navaneethan, David W Johnson, Giuseppe Lucisano, Giusi Graziano, Valeria Saglimbene, Marinella Ruospo, Marialuisa Querques, Emmanuele A Jannini, Giovanni FM Strippoli

Background

Sexual dysfunction is very common in patients with chronic kidney disease (CKD), but it is still significantly understudied. Treatment options exist but concerns have been raised relating to their efficacy and safety in CKD.

Objectives

We assessed the benefits and harms of existing interventions for treatment of sexual dysfunction in patients with CKD.

Search strategy

In October 2010 we searched the Cochrane Renal Group's specialised register, CENTRAL (The Cochrane Library, issue 10), MEDLINE (from 1966) and EMBASE (from 1980).

Selection criteria

Randomised controlled trials (RCTs) and quasi-RCTs of any pharmacological and non-pharmacological interventions used to treat sexual dysfunction in male and female CKD patients (predialysis, dialysis and kidney transplant) were included.

Data collection and analysis

Two authors independently selected eligible studies, extracted data and assessed study quality. Disagreements were resolved in consultation with an arbitrator. Treatment effects were summarised as risk ratios (RR), mean differences (MD) or standardised mean difference (SMD) with 95% confidence intervals (CI) using a random-effects model.

Main results

Fifteen studies (8 parallel, 7 crossover; 352 patients) were included. Only one study enrolled women. Studies evaluated the effects of phosphodiesterase-5 inhibitors (PDE5i), zinc, vitamin E, vitamin D or bromocriptine compared to placebo. PDE5i significantly increased the overall International Index of Erectile Function-5 (IIEF-5) score (2 studies, 101 patients, MD 10.65, 95% CI 5.34 to 15.96), all its individual domains and the complete 15-item IIEF tool (1 study, 41 patients, MD 2.64, 95% CI 1.32 to 3.96). End of treatment testosterone levels were not significantly increased by addition of zinc to dialysate (2 studies, 22 patients, MD 0.21 ng/mL, 95% CI -2.14 to 2.55) but oral zinc improved end of treatment testosterone levels (1 study, 20 patients, SMD 1.62, 95% CI 0.58 to 2.66). There was no difference in plasma luteinizing and follicle-stimulating hormone levels at the end of the study period with zinc therapy. Only sparse data were available for vitamin E, bromocriptine and dihydroxycholecalciferol in CKD patients and there were no studies of intracavernous injections, transurethral injections, mechanical devices or psychosexual therapies in people with CKD.

Authors' conclusions

PDE5i and zinc are promising interventions for treating sexual dysfunction in men with CKD. Evidence supporting their routine use in CKD patients is limited. There is an unmet need for studying interventions for both male and female sexual dysfunction in CKD, considering the significant disease burden.

Recent abstracts (Cont'd)

Non-immunosuppressive treatment for IgA nephropathy. Sharon Reid, Peggy M Cawthon, Jonathan C Craig, Joshua A Samuels, Donald A Molony, Giovanni FM Strippoli

Background

IgA nephropathy (IgAN) is the most common primary glomerular disease with approximately 30% to 40% of patients progressing to end-stage kidney disease (ESKD) within 20 years. The most common regimens include immunosuppressive agents, however the risks of long-term treatment often outweigh the potential benefits. Non-immunosuppressive options, including fish oils, anticoagulants, antihypertensive agents and tonsillectomy have also been examined but not reviewed systematically.

Objectives

To assess the benefits and harms of non-immunosuppressive treatments for treating IgAN in adults and children.

Search strategy

In July 2010 we searched the Cochrane Renal Group's specialised register, CENTRAL (in The Cochrane Library), MEDLINE (from 1966) and EMBASE (from 1980). We also searched reference lists of included studies, review articles and contacted local and international experts.

Selection criteria

Randomised controlled trials (RCTs) of non-immunosuppressive agents in adults and children with biopsy-proven IgAN were included.

Data collection and analysis

Two authors independently reviewed search results, extracted data and assessed study quality. Results were expressed as mean differences (MD) for continuous outcomes and risk ratios (RR) for dichotomous outcomes with 95% confidence intervals (CI) using a random-effects model.

Main results

We included 56 studies (2838 participants). Antihypertensive agents were the most beneficial non-immunosuppressive intervention for IgAN. The antihypertensives examined were predominantly angiotensin-converting enzyme inhibitors (ACEi), angiotensin receptor blockers (ARB) or combinations of both, versus other antihypertensives and other agents. The benefits of antihypertensive agents, particularly inhibitors of the renin angiotensin system, appear to potentially outweigh the harms in patients with IgAN. The benefits are

largely manifest as a reduction in proteinuria, a surrogate outcome. There is no evidence that treatment with any of the antihypertensive agents evaluated affect major renal and/or cardiovascular endpoints or long-term mortality risk beyond the benefit that arises from controlling hypertension in patients with IgAN. The RCT evidence is insufficiently robust to demonstrate efficacy for any of the other non-immunosuppressive therapies evaluated here.

Authors' conclusions

IgAN remains a disease in search of adequately powered RCTs to reliably inform clinical practice. More and better evidence is needed to understand the magnitude of benefit and the possible risks of anti-hypertensive or more specifically of ACEi/ARB therapy alone or in combination and which specific types of patients with the IgAN might have the greatest potential for benefit. For other non-immunosuppressive therapies, where neither benefit nor significant harm has yet to be demonstrated, there remains some justification for further exploration of the potential benefits.

Phosphate binders for preventing and treating bone disease in chronic kidney disease patients.

Sankar D Navaneethan, Suetonia C Palmer, Mariacristina Vecchio, Jonathan C Craig, Grahame J Elder, Giovanni FM Strippoli

Background

Phosphate binders are widely used to lower serum phosphorus levels in people with chronic kidney disease (CKD) but their impact in CKD remains controversial.

Objectives

To review the effects of various phosphate binders on biochemical and patient-level end-points in CKD stages 3 to 5D.

Search strategy

In March 2010 we searched MEDLINE, EMBASE, the Cochrane Renal Group's Specialised Register and CENTRAL for relevant studies.

Selection criteria

Randomised controlled trials (RCTs) or quasi-RCTs that assessed the effects of various phosphate binders in adults with CKD.

Data collection and analysis

Two authors independently reviewed search results and extracted data. Results were expressed as mean

Recent abstracts (Cont'd)

differences (MD) for continuous outcomes and risk ratios (RR) for dichotomous outcomes with 95% confidence intervals (CI) using a random-effects model.

Main results

Sixty studies (7631 participants) were included. There was no significant reduction in all-cause mortality (10 studies, 3079 participants: RR 0.73, 95% CI 0.46 to 1.16), or serum calcium by phosphorus (Ca x P) product with sevelamer hydrochloride compared to calcium-based agents. There was a significant reduction in serum phosphorus (16 studies, 3126 participants: MD 0.23 mg/dL, 95% CI 0.04 to 0.42) and parathyroid hormone (PTH) (12 studies, 2551 participants; MD 56 pg/mL, 95% CI 26 to 84) but a significant increase in the risk of hypercalcaemia (12 studies, 1144 participants: RR 0.45, 95% CI 0.35 to 0.59) with calcium-based agents compared to sevelamer hydrochloride. There was a significant increase in the risk of adverse gastrointestinal events with sevelamer hydrochloride in comparison to calcium salts (5 studies, 498 participants: RR 1.58, 95% CI 1.11 to 2.25). Compared with calcium-based agents, lanthanum significantly reduced serum calcium (2 studies, 122 participants: MD -0.30 mg/dL, 95% CI -0.64 to -0.25) and the Ca x P product, but not serum phosphorus levels. The effects of calcium acetate on biochemical end-points were similar to those of calcium carbonate. The phosphorus lowering effects of novel agents such as ferric citrate, colestilan and niacinamide were only reported in a few studies.

Authors' conclusions

Available phosphate-binding agents have been shown to reduce phosphorus levels in comparison to placebo. However, there are insufficient data to establish the comparative superiority of novel non-calcium binding agents over calcium-containing phosphate binders for patient-level outcomes such as all-cause mortality and cardiovascular end-points in CKD.

Interventions for idiopathic steroid-resistant nephrotic syndrome in children.

Elisabeth M Hodson, Narelle S Willis, Jonathan C Craig

Background

The majority of children who present with their first episode of nephrotic syndrome achieve remission with corticosteroid therapy. Children who fail to respond may be treated with immunosuppressive agents including calcineurin inhibitors (cyclosporin or tacrolimus) and with non-immunosuppressive agents such as angiotensin-converting enzyme inhibitors (ACEi). Optimal combinations of these agents with the least toxicity remain to be

determined.

Objectives

To evaluate the benefits and harms of interventions used to treat idiopathic steroid-resistant nephrotic syndrome (SRNS) in children.

Search strategy

Randomised controlled trials (RCTs) were identified from the Cochrane Renal Group's specialised register, Cochrane Central Register of Controlled Trials (CENTRAL), MEDLINE, EMBASE and reference lists of articles.

Selection criteria

RCTs and quasi-RCTs were included if they compared different immunosuppressive agents or non-immunosuppressive agents with placebo, prednisone or other agent given orally or parenterally in children aged three months to 18 years with SRNS.

Data collection and analysis

Two authors independently searched the literature, determined study eligibility, assessed quality and extracted data. For dichotomous outcomes, results were expressed as risk ratios (RR) and 95% confidence intervals (CI). Data were pooled using the random effects model.

Main results

Fourteen RCTs (449 children) were included. Cyclosporin when compared with placebo or no treatment significantly increased the number of children who achieved complete remission (three studies, 49 children: RR 7.66, 95% CI 1.06 to 55.34). Cyclosporin significantly increased the number with complete or partial remission compared with IV cyclophosphamide (one study, 32 children: RR 3.40, 95% CI 1.12 to 10.28). There was no significant difference in the number who achieved complete remission between oral cyclophosphamide with prednisone versus prednisone alone (two studies, 91 children: RR 1.06, 95% CI 0.61 to 1.87), IV versus oral cyclophosphamide (one study, 11 children: RR 3.13, 95% CI 0.81 to 12.06), IV cyclophosphamide versus oral cyclophosphamide with IV dexamethasone (one study, 49 children: RR 1.13, 95% CI 0.65 to 1.96), tacrolimus versus cyclosporin (one study, 41 children: RR 0.86, 95% CI 0.44 to 1.66) and azathioprine with prednisone versus prednisone alone (one study, 31 children: RR 0.94, 95% CI 0.15 to 5.84). ACEi significantly reduced proteinuria (two studies, 70 children). No studies were identified comparing high dose steroids and cyclosporin with single agents, placebo or no treatment.

Authors' conclusions

Further adequately powered, well designed RCTs are needed to confirm the efficacy of cyclosporin and to

Recent abstracts (Cont'd)

evaluate other regimens for idiopathic SRNS including high dose steroids with cyclosporin.

Long-term antibiotics for preventing recurrent urinary tract infection in children. Gabrielle Williams, Jonathan C Craig

Background

Urinary tract infection (UTI) is common in children. Symptoms include fever, lethargy, anorexia, and vomiting. UTI is caused by *Escherichia coli* in over 80% of cases and treatment is a course of antibiotics. Due to acute illness caused by UTI and the risk of pyelonephritis-induced permanent kidney damage, many children are given long-term antibiotics aimed at preventing recurrence.

Objectives

To determine the efficacy and harms of long-term antibiotics to prevent recurrent UTI in children.

Search strategy

In November 2010 we searched without language restriction MEDLINE, EMBASE, CENTRAL (in the Cochrane Library), the Cochrane Renal Group's Specialised Register, reference lists of review articles and contacted content experts.

Selection criteria

Randomised comparisons of antibiotics with other antibiotics, placebo or no treatment to prevent recurrent UTI.

Data collection and analysis

Two authors independently assessed and extracted information. A random-effects model was used to estimate risk ratio (RR) and risk difference (RD) for recurrent UTI with 95% confidence intervals (CI).

Main results

Twelve studies (1557 children) were identified with six (five analysed, 1069 children) comparing antibiotics with placebo/no treatment. Duration of antibiotic prophylaxis varied from 10 weeks to 12 months. Compared to placebo/no treatment, when all studies were included, antibiotics did not appear to reduce the risk of symptomatic UTI (RR 0.75, 95% CI 0.36 to 1.53) however when we evaluated the effects of antibiotics in studies with low risk of bias, there was a statistically significant reduction (RR 0.68, 95% CI 0.48 to 0.95). The effect was similar in children with vesicoureteric reflux (VUR) (RR 0.65, 95% CI 0.39 to 1.07) compared to those without VUR (RR 0.56, 95% CI 0.15 to 2.12). There was no consistency in occurrence of adverse events. Three studies reported antibiotic resistance, showing a non-significant increased risk for resistance to the antibiotic in the active treatment groups (RR 2.4, 95% CI 0.62 to 9.26).

Five studies (4 analysed, 367 children) compared one antibiotic with another but all compared different combinations or different outcomes and studies were not pooled. Two studies reported microbial resistance, nitrofurantoin having a significantly lower risk of resistance than cotrimoxazole (RR 0.54, 95% CI 0.31 to 0.92).

One study compared alternate with every day cefadroxil treatment.

Authors' conclusions

Long-term antibiotics appear to reduce the risk of repeat symptomatic UTI in susceptible children but the benefit is small and must be considered together with the increased risk of microbial resistance.



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Cochrane Renal Group
Centre for Kidney Research
The Children's Hospital at Westmead
Locked Bag 4001
Westmead NSW 2145
AUSTRALIA
Phone: +61 2 9845 1478, +61 2 9845 1485
Fax: +61 2 9845 1491
E-mail: crg@chw.edu.au
Web: www.cochrane-renal.org

Administration Officer
Leslee Edwards email: leslee@chw.edu.au

Managing Editor
Narelle Willis email: narellw2@chw.edu.au

Assistant Managing Editor
Ann Jones email: annj@chw.edu.au

Trial Search Coordinators
Ruth Mitchell email: ruthm4@chw.edu.au
Gail Higgins email: gailh2@chw.edu.au

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**or post: The Cochrane Renal Group
Centre for Kidney Research
The Children's Hospital at Westmead
Locked Bag 4001
Westmead, NSW 2145
AUSTRALIA**