The Renal Pharmacist

Volume 14, Issue 2 Winter 2011

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ADDRESS/INFO CHANGES

Please forward any address / phone number changes to the Website co-ordinator elaine.cheng@vch.ca. We are constantly updating our membership mailing list. Thank you

View from the Chair

We are already getting to the end of 2011. Wow, what an exciting year it has been! It started in the spring with the first Vancouver RPN education day. With a variety of subjects covering topics from CKD pre-dialysis, to hemodialysis and peritoneal dialysis, the feedback from participants was really positive. We can definitely say that the event was a success. Furthermore, our RPN members also had the chance to participate and network at the World Congress of Nephrology conference. Great opportunities!

Some reorganization within the RPN executive committee also occurred this year. Now that everybody is settling into their new positions, we are hoping that our committee will be more effective and that new opportunities will arise for the RPN… stay tuned. We are still looking for a new Chair-Elect for 2012. Please let us know if you are interested in getting more information on the RPN Chair position. Our dynamic committee is always looking for new members with innovative ideas.

After a slow down of activities during the summer, the RPN hosted 3 education evenings this fall in Toronto, Winnipeg and Vancouver. In this newsletter issue, you will find a summary of each presentation. The slides will be available on the RPN website as well. In this RPN issue, you will also find the results of a RPN survey on dispensing practices for ESAs, and information on a new pain algorithm now available on the British Columbia Provincial Renal Agency (BCPRA) website.

Another novelty this year is that our newsletter is now being translated into French. This initiative was made possible with the help of

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CHECK OUT OUR WEBSITE AT www.renalpharmacists.net

View from the Chair (continued)

Amgen. We are hoping that this will be helpful to French-speaking pharmacists across Canada. Please give us your feedback about it.

The RPN committee is already getting ready for the Toronto RPN education day in March, and the CSN in St. John's, Newfoundland, in April. More information on these events will be available for our members at the beginning of the new year.

Finally, my term as Chair for the RPN is now coming to an end. I would like to thank the members of the RPN executive for their help in everything accomplished in the last year. I would like to welcome my colleague Robert Bell who will be the 2012 RPN chair. Bienvenue Robert!

I would like to wish you all a wonderful and safe holidays, and Happy New Year!
Sincerely,

Judith Marin
Chair, RPN

Member Profile

Robert Bell

Robert Bell is pharmacist in the Pharmacy Department at Maisonneuve-Rosemont Hospital in Montreal, where he is responsible for the development and implementation of pharmaceutical care in hemodialysis, peritoneal dialysis and the renal protection clinic. He also teaches at the University of Montreal, to the 2nd year entry-level Pharm.D students on CKD management, vascular access, dialysis modalities and dialysis of drugs.

Robert obtained a Bachelor's Degree in Pharmacy at the University of Montreal in 1980. In 1981, he continued his training in hospital pharmacy at Maisonneuve-Rosemont Hospital. He then entered a Toxicology program at the Department of Environmental and Occupational Health of the Faculty of Medicine at the University of Montreal.

Over the past 30 years, Robert has developed and implemented several specialized clinical services in hospital pharmacy such as parenteral nutrition, oncology, clinical research and nephrology.

Robert is founder and Vice-President of the Renal Pharmacist Network in Quebec, a member of the Executive Committee of the Quebec Society of Nephrology as well as a member of the scientific committee of the Provincial coordinating committee of the multidisciplinary CKD education program P.R.E.V.E.N.I.R.

Robert will be the RPN Chair for 2012.

RPN Chair Elect

The RPN is currently recruiting for the position of RPN Chair Elect for the year 2012. See below for a description of the responsibilities associated with this position. The term of this position would be for 3 years – 1st year as Chair Elect, 2nd year as Chair and 3rd year as Past Chair. If you are interested in this position, or require additional information or clarification of any unanswered questions, please send an email to renalpharmacistsnetwork@gmail.com.

Chair Elect

- One year term
- Assumes the role of Chair in the subsequent year
- Assists the Chair in carrying out his/her responsibilities
- Assumes the role of Chair in his/her absence
- Implements new projects as identified

Summary of 2011 Fall RPN Continuing Education Events

Benchmarking Dialysis Practices

Submitted by Jenny Ng, BScPhm, ACPR, Sunnybrook Health Sciences Centre, Toronto, Ontario

On October 12th, the RPN hosted an evening CE event at the Westin Prince hotel in Toronto. RPN members were fortunate to hear Dr. Matthew Oliver from Sunnybrook Hospital present on benchmarking dialysis practices. Dr Oliver's presentation focused around the importance of dialysis centers to ensure that they try to provide optimal care and that there is a means to evaluate continuous improvement. Dr. Oliver presented his data on benchmarking outcomes in four different dialysis programs and how this data was used by certain centers to improve their care. In the future, as more dialysis centers become involved with benchmarking dialysis practices, this data set will grow and provide even more information on dialysis practices. In regards to measurement, he highlighted how important it was to select only key variables to compare and to ensure that the data collected be accurate across the different programs so that it is valid for comparison. After the presentation, the group discussed opportunities for pharmacists to become involved with benchmarking medication or pharmacy practices and how valuable this information would be for pharmacy practice across different dialysis programs. It was another great evening for renal pharmacists in the greater Toronto area to get together for continuing education and have the opportunity to share ideas with each other.

Updates on Peritonitis Prophylaxis and Diabetes Management

Submitted by Judith Marin, BPharm, MSc, PharmD, Fraser Health Authority, Surrey, British Columbia

The RPN hosted its 3rd education evening in Vancouver on Nov 1st. The first talk of the evening summarized studies on medications used for prophylaxis of peritoneal dialysis-related peritonitis infections. Dr Daniel Schwartz did a wonderful review of the evidence on interventions to prevent fungal and bacterial peritonitis in this population. Most of the discussion turned around the use of fluconazole to prevent secondary fungal peritonitis, when peritoneal dialysis patients are on antibiotics. The randomized trial looking at this intervention was reviewed. This approach was adopted by the Fraser Health Authority peritoneal dialysis program where Dr. Schwartz practices. It resulted in a decrease in the cases of fungal peritonitis from 14 cases/year to 6 cases / year. More data is currently being collected on this intervention.

The second talk reviewed some of the controversies related to the new Canadian Diabetes Association (CDA) guidelines published last summer. Anar Dossa pointed out that A1C is now considered a diabetes diagnostic tool as recommended by the new guidelines. She walked us through all the limitations related to the test, pointing out the ones most specific to chronic kidney disease patients, like the use of erythropoietin stimulating agents. Furthermore, she reviewed with us how to counsel patients on blood sugar monitoring based on the new CDA guidelines and how she promotes, in her practice, individualization of blood sugar monitoring. As well, she did a thorough summary of the medications used for blood sugar control, with emphasis on the incretins class.

For more information, please refer to the original power point slides which will be available on the RPN website shortly. I would like to thank our presenters once again for this great evening.

Minding the Gap: Transplant Transitions

Submitted by Amy Sood, BScPhm, PharmD, St. Boniface Hospital, Winnipeg, Manitoba

On Nov 3rd, the RPN hosted its second education event in Winnipeg. Jennifer Dyck, a renal transplant pharmacist, gave us an overview of transplant pharmacotherapy including adverse drug reactions, drug interactions and drug monitoring. The talk also focused on the differences in common complications when transitioning between renal replacement therapy and renal transplant. For instance, she described the different factors contributing to post-transplant anemia, additional factors that increase cardiovascular risk in these patients, as well as reasons for persistence of bone disease after renal transplant. Jennifer also discussed the process for tapering immunosuppression after loss of graft function. The role of the renal transplant pharmacist was also reviewed.

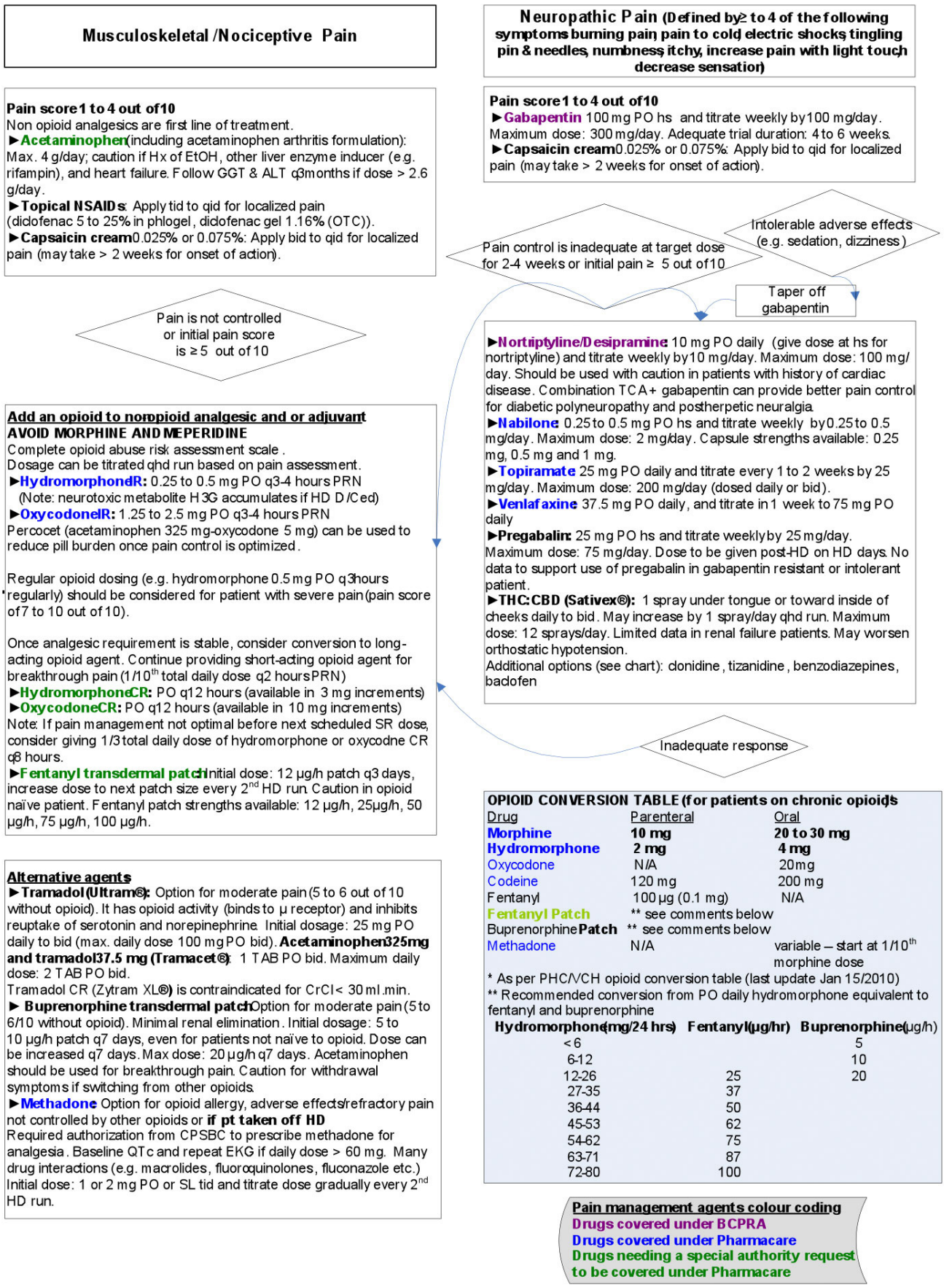
As renal pharmacists we have all either cared for patients awaiting transplant or cared for those that are transitioning back to renal replacement after transplant failure. This presentation highlighted the importance of communication between the renal pharmacist and transplant pharmacist and vice versa to ensure continuity of care.

New pain management algorithm developed by the BC Provincial Renal Agency (BCPRA)

Submitted by: Judith Marin, BPharm, MSc, PharmD

A primary outcome of care for end-stage renal disease (ESRD) patients is their achievement of a satisfactory quality of life despite the presence of a chronic, life-altering illness. The symptom burden in dialysis patients and patients being conservatively managed is extensive, severe and significantly impacts quality of life.[1] Consequently, accurately assessing symptoms and implementing algorithms to manage symptoms can significantly improve patient's quality of life and provide consistent treatment. The most severe symptoms reported by dialysis patients are pain, tiredness, well-being, appetite, anxiety and depression.[1,2] It is estimated that 50% of chronic kidney disease patients experience chronic pain, with as many as 82% of them reporting pain to be moderate to severe intensity.[3-5]Furthermore, patients with chronic pain are more likely to suffer from insomnia and depression, other conditions impacting their quality of life. Pain can be due to renal disease (e.g. polycystic kidney disease), co-morbidities (e.g. diabetic neuropathy, osteoarthritis), disease consequent upon renal failure (e.g. calciphylaxis, renal bone disease), or dialysis modality (e.g. back pain in peritoneal dialysis (PD) patients, cramps or headaches in hemodialysis (HD) patients). Pain in this population is usually multifactorial. Evaluating if patient is having nociceptive versus neuropathic pain helps to clinician to select appropriate non-pharmaceutical and pharmaceutical options. To assist the clinician in choosing appropriate drug therapy, the BCPRA developed chronic pain management guidelines for the hemodialysis population (Figure 1). This tool will be accessible shortly on the BCPRA website, along with a detailed analgesic chart and drug cost comparison table.

Figure 1. BCPRA chronic pain management guidelines



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Survey of Dispensing Practices for Erythropoeisis-Stimulating Agents in Ontario Renal Clinics

Submitted by: Xiaofei Huang, University of Waterloo and Julie Scott, Pharm.D. Renal Pharmacist, Grand River Hospital, Kitchener, Ontario

Background

As part of a review of the dispensing practices for Erythropoeisis-Stimulating Agents (ESA) in our chronic kidney disease (CKD) clinic at Grand River Hospital, we distributed a questionnaire to assess dispensing practices at CKD Clinics across Ontario. Erythropoietin is a recombinant protein that stimulates the production of red blood cells, and is used for the treatment of anemia related to chronic renal failure. In Ontario, ESA products are funded through the Special Drugs Program for people with end stage renal disease. When the product is dispensed through an established Renal Program, reimbursement is provided from the Special Drugs Program to the specific Renal Program. However, it covers the drug cost only and does not include a dispensing fee. The result is that the CKD patients receive ESA free of charge. ESA is not covered through the Ontario Drug Benefit (ODB) program for CKD patients.

An e-mail was sent in December 2010 via the Renal Pharmacists Network (RPN) mailing list targeting Ontario pharmacists working at CKD clinics within hospitals. The e-mail directed interested pharmacists to a seven-question multiple choice survey on the Survey Monkey website. Twenty-seven surveys (representing 19 CKD Programs) were returned as of January 10, 2011; at which point the data was compiled. Data from our CKD Program at Grand River Hospital was then added to the record, forming a total of 20 CKD clinics participating in the survey.

Results

Survey results are summarized in Table 1. Most respondents (70%) reported darbepoetin alfa (Aranesp®) as the primary ESA prescribed by the nephrologists with their CKD clinics. Eleven sites (55%) replied that the nephrologists associated within their CKD clinic also prescribe ESA for non-clinic patients (i.e. patients exclusively seen at their private offices). None of the sites reported charging a dispensing fee for ESA preparation.

Ten respondents (50%) reported that at their site, the ESA product is dispensed from the CKD clinic. Of those ten locations, 80% use a process that involves either a pharmacist or a pharmacy technician dispensing a patient-specific supply to be left in the clinic for the patient to pick up. In one of the sites, nurses were responsible for selecting the ESA product from wardstock to prepare and dispense to the patient.

In one off-site CKD clinic, the outpatient hospital retail pharmacy delivers the medication to the clinic, though dispensing to the patient still occurs from the clinic. Three sites use a combination of dispensing methods where ESA is dispensed from their respective CKD clinics, but also via the outpatient and inpatient pharmacies. An innovative practice at one site involves an agreement with a few delegated independent retail pharmacies (affiliated with the hospital) where CKD patients can fill prescriptions for ESA. The survey response did not identify the method of reimbursement for this process.

Table 1. ESA Dispensing Practices

ESA Used	
Darbepoetin alfa (Aranesp®)	70% (14/20)
Epoetin alfa (Eprex®)	30% (6/20)
ESA Prescribing for Private Office Patients	
Yes	55% (11/20)
No	35% (7/20)
Unknown	10% (2/20)
ESA Dispensing Location	
Independent retail pharmacy	5% (1/20)
Hospital retail pharmacy	35%* (7/20)
Inpatient pharmacy	25%* (5/20)
CKD clinic	50% (10/20)
CKD Clinic ESA Dispensing Practice	
Renal pharmacist/pharmacy technician-based	80% (8/10)
Nursing-based	10% (1/10)
Other	10% (1/10)
Dispensing Fee	
Fee charged	0%
No fee charged	90% (18/20)
Unknown	10% (2/20)

** the total percentage for dispensing location is greater than 100% because some locations dispensed from multiple locations*

Discussion

This survey was intended as only a superficial overview of ESA dispensing practices in CKD clinics across Ontario; so results should be interpreted within this context. Darbepoetin (Aranesp®) seems to be the most commonly dispensed ESA agent in Ontario CKD clinics. Darbepoetin (Aranesp®) and epoetin alfa (Eprex®) are equally effective agents in managing CKD-related anemia[1]. Thus, the selection of an ESA agent on hospital formulary typically considers other factors; such as cost and frequency of dosing. The survey did not ask respondents to explain the rationale for the selection of ESA product within their hospital.

The ESA dispensing location was highly variable across sites. There are no formal guidelines in terms of a standardized procedure for ESA dispensing through the Special Drugs Program. Retail pharmacies are the location where most prescriptions for other non-ESA medications are dispensed to CKD patients in the outpatient setting. However, the lack of a dispensing fee presents a barrier to asking patients to fill ESA prescriptions at their usual retail pharmacy. Some hospital-affiliated retail pharmacies dispense these medications at a loss with no reimbursement beyond drug cost.

Outpatient dispensing of ESA from an inpatient pharmacy can present challenges. Depending on the pharmacy computer system and processes within the department; dispensing to outpatients can involve unconventional processes that can potentially lead to errors or inefficiencies. At Grand River Hospital, the inpatient pharmacy computer system does not have the functionality for outpatient dispensing which makes it difficult to track the exact quantity dispensed on a specific day. As a result, the inpatient pharmacy system is used to generate labels but manual patient-specific dispensing cards are used to keep track of exact quantities dispensed.

Many Renal Programs have incorporated dispensing workload within the CKD Clinic where the workload is distributed between the renal pharmacists, renal pharmacy technicians and Clinic nurses. It is within nursing scope of practice to distribute medication to the patient that has already been dispensed as a patient-specific supply and checked by the pharmacist. However, in order for nurses to dispense (i.e. select the product from wardstock to prepare for patient); a program-specific delegation policy needs to implemented. Dispensing procedures, as defined in the Drug and Pharmacies Regulation Act, must still be followed even within this policy[2].

Conclusions

The reimbursement of ESA agents through the Special Drugs Program for CKD patients presents challenges for Renal Programs in Ontario. This has led to widely varied dispensing practices across CKD clinics in Ontario. In Ontario, ESA products are dispensed through retail pharmacists (both independent and hospital-based), inpatient pharmacies and CKD clinics. Dispensing workload is shared between pharmacists, pharmacy technicians and nurses. In many hospitals, there are multiple processes for dispensing these products through various locations. This lack of standardization increases the risk of dispensing error. As well, less stringent control of dispensing can potentially lead to greater wastage of product.

The Ontario Renal Network (ORN) was established in 2009 to lead a province-wide effort to better organize and manage the delivery of renal services. Hopefully, as the ORN develops a more coordinated funding model for Renal Services across Ontario, ESA reimbursement could potentially be arranged through the patient's usual retail pharmacy. This will require a reimbursement system that covers both the drug cost and an adequate professional fee for the retail pharmacy involved.

References

1. Kruep EJ and Basskin LE. Cost-Minimization Analysis of Darbepoetin Alpha vs Epoetin Alpha. *American Journal of Health-System Pharmacy*. 2005;62(24):2597-2603.

2. Drug and Pharmacist Regulation Act, R.S.O., 1990.

Upcoming Conferences

2012 Canadian Society of Nephrology Annual Meeting

April 25-29th, 2012

St. John's, Newfoundland

More information at: www.csnscn.ca

National Kidney Foundation 2012 Spring Clinical Meetings

May 9-13th, 2012

Washington, D.C.

More information at: www.kidney.org

49th ERA-EDTA (European Renal Association – European Dialysis and Transplant Association)

May 24-27th, 2012

Paris, France

More information at: www.era-edta.org

Highlights of the 9th ANNUAL D.E.V.E.N.I.R. CONGRESS, October 14-15, 2011, Montreal, Quebec

Submitted by Robert Bell, BPharm, DPH, Maisonneuve-Rosemont Hospital, Montreal, Quebec

The Quebec renal pharmacist network organized a half day education program for renal pharmacists prior to the start of the congress with presentations from Dr Roger Kaprielian , Scientific Affaires Amgen, on the topic of "Hemoglobin Variation and Therapeutic Options - Current Data in Anemia". This was followed by a talk by Kateri Bourbeau, B.Pharm.M.Sc, BCPS, Professor of Clinical Nephrology in Quebec City who summarized a talk that she attended in June 2011 at the EDTA meeting in Prague, Czech Republic. Her talk, "New Therapeutic Options in Anemia Management" covered recent clinical data on EPO-mimetics particularly peginesatide (Hematide™) and the role of hepcidin in the management of anemia. An overview of HIF stabilizers and potential avenues for further clinical research was also addressed. A roundtable of the current intravenous iron practices of the 22 participants completed this presentation.

Another colleague from Trois-Rivières, Quebec, Julie Beauregard, presented on the implementation of a Drug Reconciliation Project for their 167 patient hemodialysis unit. A pharmacy technician (3 day / week), funded by a project grant from Amgen, was involved in the implementation of the program. The project was considered a success but a full time pharmacy technician was considered necessary to assume the continuity of the quality initiative.

The last talk of the morning was given by Dr Vincent Pichette, Professor of Medicine and Pharmacology at the University of Montreal and Director of the Medication and Nephrology Research Centre at Maisonneuve-Rosemont Hospital in Montreal. Dr. Pichette's talk entitled "The Impact of the New Guidelines in regards to Drug Dosing in CKD" reviewed drug metabolism in relation to non-renal drug clearance and the impact of CKD on drug pharmacokinetics. As an expert for the FDA, KDIGO and ACCP, Dr. Pichette then described the new recommendations for PK studies in CKD. The 2010 Draft Renal Guidance was published for public comment in March 2010 and can be accessed at:

http://www.fda.gov/Drugs/GuidanceComplianceRegulatoryInformation/Guidances/ucm064982.htm

A comparison of eGFR equations used in staging CKD and drug dosing was debated and the ongoing implementation of the CKD-EPI formula for reporting eGFR in the Quebec hospital laboratories completed the discussion. Attendees were encouraged to take a look at the "KDIGO Controversies Conference: Drug prescribing in Kidney Disease: Initiative for Improving Dosing" that was held in Baltimore, USA, May 2010 and to attend the 39th ACCP Annual Meeting on the topic of "Optimizing Drug Therapy for Renally Impaired Patients" including topics on pharmacometry (modeling and simulation) in drug development and research. The November 2011 issue of Pharmacotherapy will have a supplement on the subject.

The DEVENIR meeting is a two-day multidisciplinary annual continuing education event that was attended be 170 participants, including nephrologists, renal pharmacists, nurses and nutritionists, dedicated to the prevention and care of CKD patients. An international faculty from France, England, the US and Montreal addressed "hot" topics that are a challenge to CKD practitioners. The take home message for some of the speakers are presented on the following pages.

"Uric acid and fructose ; new players in the field of CKD"

Dr Daniel I Feig

Screen for uric acid in patients with Obesity, Hypertension and CKD
General efficacy of urate reduction in hypertension/CKD is NOT proven
Consider mild urocosurics (losartan, statins, some antibiotics)
Encourage sweetener reduction

"Renal toxcity related to treatment of cancer : The Good, the Bad and The Ugly"

Dr Benjamin Humphreys

The Good: Cancer patients are living longer and have more therapeutic options than ever before
The Bad: Some of these patients will develop kidney toxicity, limiting treatment options and increasing morbidity
The Ugly: The fraction of patients living long enough to develop kidney toxicity is increasing and represents an important challenge for nephrologists and oncologists alike

"ANCA-associated vasculitis, a curable disease"

Dr David R.W. Jayne

Outcomes of vasculitis are poor
Patient and renal survival, cardiovascular and mailgnancy risk
Standard therapy
Cyclophosphamide induction has been optimized
Remission maintenance with AZA or MTX, MMF less effective
Consensus recommendation
Unmet needs remain
Biologics
Rituximab alternative to CYC and preferred for relapsing/refractory disease
Maintenance of remission after RTX still unresolved
Alternative newer therapies

"Fetal origins of renal problems"

Dr Uptal D Patel

Normal in-utero growth is complex and susceptible to critical periods and a variety of genetic and environmental influences
Nephron endowment appears to be related to adult hypertension and kidney disease
Fetal programming appears to have multiple clinical manifestations later in life suggesting that public policy strategies may be helpful toward improving population health

"Cardio-renal syndrome : New concepts for an old problem - from a cardiologist's perspective"

Dr Stephen S. Gottlieb

Multiple causes of cardio-renal syndrome are being uncovered
Implications for clinical treatment
Unpredictable effects of diuresis
Concerns about ACE inhibition overstated
No clear benefit of ADH or adenosine antagonists
No clear benefit of natriuretic peptides

"Dyslipidemia and chronic kidney disease : Shadow and Light"
Dr Rajiv Agarwal

- CKD is a high absolute CV risk state
- Lipid management is key to management of CVD in CKD patients
- Prescription of statin is the first step, but getting LDL-cholesterol goal is key
  - 30-40% reduction from baseline desirable
  - Monitor efficacy and toxicity (true for most drugs)
  - Among CKD patients:
    - LDL-cholesterol reduction appears to mostly protect from CVD; it does not appear to protect the kidney
    - Ezetimibe-simvastatin combination can reduce CVD risk at an acceptable level of toxicity

In the coming months these talks, many of them in English, will be available for viewing at the Quebec Society of Nephrology web site (www.sqn.qc.ca) section PREVENIR-DEVENIR.

Next year will be the 10th Annual DEVENIR Congress, which will be held in Quebec City, the scientific program will undoubtedly be outstanding. Hope to see some of you there.

Volunteer to be a Member of the Editorial Board of the Canadian Association of Nephrology Nurses and Technologists (CAANT) Journal!

Dear RPN Members,

Would you like to….hone your writing skills? Keep up to date on new drug and therapeutics topics? Have activities for those amazing pharmacy students, residents and Pharm D students who LOVE nephrology? Maintain an active curriculum vitae and be FAMOUS in PubMed?

Consider joining the CANNT Editorial Board!

Expectations include to produce (or cause to get produced) 4 articles per year for the CANNT Journal. Topics are totally open to whatever you want: can be new drugs, response to media stories, summaries of journal articles published in other journals, or CE/Review paper….or you could get creative.

For more information, or to volunteer for this exciting Canadian opportunity….contact:
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Respectfully submitted by
Colette Raymond, Pharm D, MSc, ACPR,
Health Sciences Centre,
Winnipeg, MB

What's New in the Nephrology Literature? A Focus on Renal Pharmacotherapeutics...

Drug dosing consideration in patients with acute and chronic kidney disease – a clinical update from Kidney Disease: Improving Global Outcomes (KDIGO).
Matzke GR et al. Kidney Int. 2011;80:1122-37.

This document from KDIGO has recommendations for clinical practice on the following topics: assessment of kidney function, drug dosing considerations for patients with CKD and acute kidney injury as well as patients receiving hemodialysis, continuous renal replacement therapy, extended daily dialysis and peritoneal dialysis.

Improved parathyroid hormone control by cinacalcet is associated with reduction in darbepoetin requirement in patients with end-stage renal disease.
Battistella M et al. Clin Nephrol 2011;76:99-103.

In this retrospective cohort study of 40 patients with ESRD, the authors found that a reduction in PTH with cinacalcet was associated with a reduction in darbepoetin dose from 40 to 24 mcg/week.

Medication adherence in patients with chronic kidney disease.
Raymond CB et al. CANNT J 2011;21:47-50.

This review article discusses the widespread problem of medication non-adherence in patients with CKD, the possible reasons for non-adherence and reviews the literature for interventions to improve medication non-adherence in this population.

Iron indices after administration of sodium ferric gluconate complex in hemodialysis patients.
Shalansky K et al. Am J Kidney Dis 2011;58:684-5.

This Research Letter describes a study designed to determine the interval at which iron indices can be measured and interpreted after giving sodium ferric gluconate complex in hemodialysis patients. The authors conclude that 48 hours after receiving sodium ferric gluconate complex, TSAT levels may be falsely elevated and recommend that a 7 day interval would be more adequate.

Sodium thoisulfate pharmacokinetics in hemodialysis patients and healthy volunteers.
Farese S et al. Clin J Am Soc Nephrol 2011;6:1447-55.

This study investigates the pharmacokinetics of sodium thiosulfate (STS) in 10 hemodialysis patients and 9 healthy volunteers. The authors report that the oral bioavailability of STS is low and variable (7.6%) and recommend that STS be given via the intravenous route.

Simulation-based sodium thiosulfate dosing strategies for the treatment of calciphylaxis.
Singh RP et al. Clin J Am Soc Nephrol 2011;6:1155-9.

Using simulations, this study gives guidelines for STS dosing for patients depending on HD frequency and duration. This may be a useful guide for dosing STS in patients with calciphylaxis that are on short daily dialysis, nocturnal dialysis or CVVHD.

Please send any articles of interest to renalpharmacistsnetwork@gmail.com

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