The Renal Pharmacist

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Herbal Medicine in Dialysis Patients

by Janet Martin, Pharm D
Evidence-Based Practice Pharmacist, LHSC

Recent surveys in North America have shown that the use of natural therapies is increasing annually in the general population. Estimates suggest that 15-25% of the population uses some form of natural medicine, such as herbal or other non-botanical natural remedies, acupuncture, and chiropractic therapy.

There is no information in the literature describing the use of natural medicine in the dialysis or renal insufficiency population. However, renal failure patients are increasingly inquiring about the safety and efficiency of natural therapy.

In response to the limited information in the literature describing the use of natural medicine in the renal failure population, a survey of over 100 hemodialysis patients was conducted in our institution to measure the prevalence of use of herbal medicines. The results of this survey emphasize the need for us to respond to the needs of the dialysis patient for objective information about natural medicine.

SURVEY RESULTS:

- 47% of respondents have used natural medicine (i.e. herbal products and/or nutritional supplements.
- 26% of respondents were taking one or more natural medicine products at the time of the survey [range: 0 - 8 products currently in use].
- 64% reported using natural medicine for the purpose of improving general health, and 30% were using natural medicine to treat a disease or health problem.
- 49% of the respondents reported that they get their information about natural medicines from family or friends, and 28% relied on information from the health food store.
- 66% of respondents felt natural products had been helpful to them.
- 27% felt natural products are free of side effects; 48% said, "I don't know."
- 34% felt natural products would interfere with prescription medications; 42% said, "I don't know."
- 45% indicated their doctor did not know about their use of natural medicines.
- 4% indicated they would take natural medicine in place of their prescription medications.
- 58% indicated an interest in more information about the use of natural medicines in dialysis patients.

IMPLICATIONS:

Since the results of this survey indicate that, in hemodialysis patients:

- the prevalence of use of natural medicines is consistent with (and probably greater than) that of the general population;
- the majority rely on lay resources for informed choices about natural medicines; and
- the majority are unaware of the risks associated with natural medicine and desire more information tailored for dialysis patients;

we need to take responsibility for providing our patients with objective information about natural medicine.

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In Search Of.....

....A new Executive. It is that time of year again when the torch is passed. At the September 23rd meeting of the Renal Pharmacist's network a new executive will be chosen. To assist you in considering a position on the Renal Pharmacist's Network Executive a summary sheet has been enclosed in the newsletter highlighting the roles and responsibilities of the various members. Have you ever been on a council before? Past experience is not required!! This is a rewarding opportunity to get involved, putting your leadership skills to use to lead the Network into the next millennium (how cliche!!). Any questions?? Don't be afraid to approach any of the current executive for information on their experiences with the Network.

Intradialytic Parenteral Nutrition (IDPN)

a presentation by Fred Kuehner
paraphrased by Andrew Eagleson

Over the last few years more and more emphasis has been placed on the "nutritional status" of dialysis patients. Adequate nutrition is necessary for optimal health and well-being. Protein and energy malnutrition is very common in patients on regular dialysis, with an incidence of approximately 40% in H.D. patients and 18-51% in the PD population. A third of these patients would be classified as having mild to moderate malnutrition whereas 6-8% would be severe. Unfortunately, states of malnutrition have been associated with increased morbidity and mortality in this population of patients, making nutritional intervention an area for positive impact.

Certain groups of patients are at greater risk for malnutrition because of the following factors:

- Inadequate nutritional intake due to anorexia, nausea, and vomiting. During hemodialysis, patients are in a catabolic state and can have 8-12 grams of protein dialyzed out during each dialysis. Some may not be able to make up the deficit.
- Uremic Toxin accumulation due to inadequate dialysis (poor Kt/V). Uremic toxins suppress appetite.
- Disturbances of Protein-Energy metabolism (i.e. in metabolic acidosis) where the body loses efficiency in processing the nutrition that is available to it.
- G.I problems (gastroparesis, ulcers, sclerosing peritonitis, malabsorption, ischemic bowel) compromise adequate food intake and absorption.
- Other complicating illnesses such as pancreatitis or depression.

Clinical markers can be measured to assess for and determine severity of malnutrition. These include:

- serum albumin which appears to be the single most important predictor of mortality, after age,
- muscle mass reduction, signified by lowered pre-dialysis creatinine concentrations,
- low BUN levels, indicating poor dietary protein intake,
- and serum potassium, phosphate, and cholesterol. A decrease in pre-dialysis concentrations have all been associated with an increased risk of mortality in patients that are on maintenance HD.

IDPN is an infusion of Amino Acids, glucose, and lipids via the venous return line during hemodialysis. It is a method of nutritional support designed for use in a select set of patients who exhibit evidence of severe protein and calorie malnutrition. IDPN can supply 40-60% of a patients nutritional needs for the day that it is administered.

IDPN consists of an electrolyte free amino acid and dextrose solution. Sunnybrook Health Sciences Centre uses a 6.8% amino acid / 22% dextrose solution to which they add multivitamins and trace elements. Typically 1 litre of this solution (plus additives) are given to patients with each dialysis run. 250cc of 20% lipids are worked into the equation to offer further substance.

Although studies evaluating hard endpoints and outcomes with IDPN are small in number, the general picture shows that IDPN therapy leads to an increase in serum albumin that appears to relate to a decrease in mortality rates. In addition, nutritional support can improve immune function and wound healing in patients over time.

This type of nutritional support for patients has a number of advantages to offer. The concerns of fluid load are reduced by the fact that the supplement is given to patients while they are on dialysis. Adjustments to the dialysis prescription can be made to accommodate this. There are limited concerns of electrolyte imbalance as a result of the supplement as there is complete control over the content of the IDPN.

One of the more significant disadvantages to this therapy is the cost. At an estimate of $70 per treatment, the extra $210 per patient treatment week certainly needs to be factored into the equation. The other limitation is time. Although beneficial in the long run, it can take some time (weeks to months) before the benefits of IDPN become truly apparent. This is complicated by the fact that true nutritional indices are not yet really known for patients with ESRD (i.e. how

New Network Email
You may now contact the Communications Coordinator via:
renalnet@home.com
For newsletter submissions, general communication, etc. Use this address today!!

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Herbal Medicine cont.....

Unfortunately, objective information is difficult to find. Natural medicine has been rife with methodologically inadequate trial designs. In my review of the literature evaluating herbal medicines, I was able to find valid evidence to support the use of only three herbals: St. John's Wort for mild to moderate depression, saw palmetto for BPH, and ginko biloba for Alzheimer's or multi-infarct dementia. Howe3ver, none of these herbals demonstrated superiority over best available conventional therapy, and many of the studies were of short duration (particularly SJW studies). Therefore, it remains difficult to define the therapeutic rank of each of these therapies. Considering the variability of product potency in the studies and the variability of purity and contents of product available on the market, it is not recommended that these products be considered first-line.

In addition to the lack of evidence for efficacy for most herbal products, a number of considerations that are specific to the dialysis population warrant advising patients to avoid taking herbal products. For example:

- a number of herbals may cause adverse effects that can exacerbate or mimic the symptoms of chronic renal disease and its sequella,
- a number of herbals have been shown (or are suspected) to interact with conventional medications,
- the routes of elimination of most herbals is unknown, and the formation of active or toxic metabolites has not been studied; and
- there have been no studies evaluating the safety and/or efficacy of herbals in dialysis or renal insufficiency patients.

Therefore, until we have more information from valid studies, we should not advocate the use of these products in our patients. However, we also need to respect that our patients want to take natural medicines for a variety of reasons (i.e. to provide an alternative to conventional medicine when usual therapies have been unsuccessful). Therefore, our greatest responsibility lies in informing our patients about what **is** and what **is not** known about the safety and efficacy of natural products in the renal population, so that they may be empowered to make informed decisions.

Is Research Your Thing??

by Andrew Eagleson

At the last meeting of the Network Group we were pleased to offer Dr.R.M. Lindsay as our guest speaker. Within the "Research Fair" theme of this evening, the title of his talk was, "Renal Research - Fun for All." Currently a nephrologist at the London Health Sciences Centre, Dr.Lindsay has been involved in research since the beginning of his medical career. Using his "life story" as the basis of the talk, we were taken on a tour of the growth of the specialty that we are all now part of. Beginning in the mid 1960's Dr.Lindsay fell onto the path of nephrology by being awarded a summer research placement at the University of Glasgow, Scotland. During this summer he studied the effects of dialysis on the kinetics of many different drugs. The "high tech" dialysis process of that time involved many feet of sheep intestines.

Research continued.....

Progressing to more sophisticated plate dialysers that incorporated layers of cellophane between stainless steel plates, Dr.Lindsay remarked on possibly being one of the first individuals to formally study the anticoagulation properties of aspirin. The focus at the time was to reduce the amount of blood that was lost to "clotting" within the dialyzers.

Even in today's advanced world of high flux dialyzers and computerized dialysis machines, Dr.Lindsay continues his extensive involvement in research. Recent initiatives have involved IV iron therapy and vascular access for HD patients.

Through a very entertaining and informative talk, Dr. Lindsay was able to emphasis the point over and over again that there is no lack of opportunity for research in the nephrology field. Quoting his anecdote, "Not being able to find a research topic relating to nephrology is like not being able to bet drunk in Ireland!!"

During the question and answer period that followed, the limitation of obtaining funding was mentioned. Dr.Lindsay commented that funds are readily available through research grants and industry support; which he has certainly proven by being the recipient of close to 5 million dollars in research related funding thus far in his career. His words of advice were to establish a "slush fund." If you get a little extra money at some point, set it aside for use as a "kick-off" for your next idea.

At the completion of this session, participants were asked to complete an evaluation form that also allowed for each person to report on any research initiatives that they had already undertaken or were interested in pursuing. The list of "ideas" generated from this feedback include:

_ Assessing our adequacy of treating PTH abnormalities
_ Establishing safe and effective dosing for Bisphosphonates in CRI patients
_Studying tPA use for occluded catheters

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_Evaluating antibiotic/heparin locks for catheter infection treatment and/or prevention.
_Determination of drug removal by plasmapheresis/CVVHD
_Search for the ideal iron supplement
_Assessment of phosphate binders to find alternatives to currently used agents
_Pharmacologic management of anorexia in CRI patients
_Establishment and evaluation of Seamless Care Processes between institutional and community pharmacists
_Assessing the effect of Angiotensin II blockers on LVH in the dialysis population

Do any of these topics interest you?? It is a goal of the network executive to develop a research component to the RPN. The opportunities for multi centre, collaborative efforts in research are great. Our place to start would be to link together individuals with common interests and ideas. This could lead to the formation of research groups within the RPN that would ultimately benefit all members.

The statement posed to those who were present at this session was to, "Please list any research ideas that you are in the process of pursuing or would have an interest in pursuing if the opportunity arose."

If you were not present at this session, or did not have a chance to complete this questionnaire, please submit your response to Andrew Eagleson via the network email (renalnet@home.com). If you do not have email, then please forward your response in writing or by phone to Andrew. Contact information is listed on page 1. We will match up individuals with a common interest in an attempt to initiate research groups. Hope to hear from everyone soon.

And The Group Spoke Out

Over the course of this past year, the RPN has continued to grow. Our membership has continued to expand. With this growth some issues came to head that needed to be addressed to help determine a future course for the group.

One issue that has been discussed at the general meetings is the liaison that the RPN is to have with CSHP. As certain restrictions may accompany a liaison with CSHP as an official PSN (Pharmacy Specialty Network) we were hesitant to automatically accept this designation. In addition to this, our relationship with Ortho Janssen has been discussed. Our support has been and continues to be "all that we can ask for". However, with other sponsors knocking at our door, exactly where to take things has been undecided.

To assist the executive in addressing some of these issues a survey was sent to RPN members earlier this year. With 31 respondents to the questionnaire, we have something to go on.

When asked if the RPN should be affiliated with CSHP as a PSN (get with the lingo!!) 70% agreed or strongly agreed. This agreement came with the caveat that CSHP live up to the reported benefits offered to PSNs (i.e. administrative support, finances, conference time, etc.)

With the acceptance of the PSN status, current regulations would require that members of the RPN be CSHP members as well. 68% of the respondents were indifferent to, or disagreed with these membership requirements. Only 50% of our members currently belong to CSHP. And only half of those that aren't would be, at least at this point, willing to become CSHP members.

The question of whether or not accepting support from drug companies other than our current sponsor, Ortho Janssen, was in the best interest of the group yielded an 80% response in favour of alternate funding sources.

To assist in establishing a self supporting structure for the RPN, members where asked if they would be willing to pay a nominal fee ($20-$40) annually as a membership fee in support of mailings, honorariums, etc. 89% were in favour of this. Guess what, fees will be due soon.

When asked if membership to our network should be limited to individuals practicing in the area of nephrology the members were split 50:50

Your voice is heard. Surveys such as the one above will have a great impact on the outlook for the RPN. Although these issues have not been completely resolved, the information above is at hand to assist in future decisions when they arise. Further discussion on some of these issues will occur at future meetings of this group. You may refer to the minutes of the June 22nd meeting that are included in this newsletter for further information on some of the discussion that took place.

Technological Update

from your Communications Coordinator

It has been a goal of the executive this year to attempt to create an environment of open communication amongst the members of the RPN. With today's "easy" telecommunications options, it should not really be all that difficult of a thing to accomplish. We are making progress, but still have a ways to go.

Currently, we are able to communicate with others in person at the various meetings that are held throughout the year. In addition, this newsletter offers somewhat of a medium for information exchange. Also, an email group was set up earlier this year as a means of establishing an informal chat group to share information. To the best of my knowledge, this is not something that is really being used at the moment.

Were are we going from here? I will start by suggesting, or better yet demanding that members of the RPN make use of this newsletter as a means to communicate with the rest of the group. To assist in that I will be starting a new column in this newsletter entitled, "Ask the group." In each addition of this newsletter, a question will be posed. This question will be selected by those submitted to me by members of the group. Pose a question to the group!! Any question. About therapeutics? About policies? Your choice. Following the posting of such a question, I challenge every group member to formulate a response, if you can. Responses forwarded to me will be published in the following newsletter to answer the question that was asked. Sound good?

In addition, I would like to encourage everyone to make use of the wonderful world of email. As you have probably already noticed, there is now a new email address for Renal Network Communications. I am offering to act as a "host" to an informal discussion group that can be held over email. This was the idea that was suggested earlier this year. The basic concept is that you create a "group" in your email address book that contains the email addresses of all RPN members with access to email. When you wish to talk to the group, send the email to everyone. If you are responding to such an email, reply to "All Recipients" such that your response is again forwarded to all members. Let's give this a try in the near future.

The one downside to such a system is that it can create a lot of email for everyone. I am hoping that even though there may be a lot of quantity, that the quality of information exchanged will be well worth it.

Make sure that the RPN members directory has your current contact information, including email address if you have one. I will put together a "grouping" of these email addresses and forward them to everyone in the near future.

I also wanted to give you an update on the Web Page development that is being undertaken for the network. It is our goal to create a Website for this group that would offer us yet another forum to exchange information. This page would ideally offer a chat group option for real time communication. I am currently in the planning stages for such a site. I have the "Web Space" available for its creation. I am open to any ideas members may have about features that they would like to have included in such a site. Please forward any suggestions to me.

And now for the new column...

Simple ideas have changed the world...What are yours??

ASK THE GROUP

Introducing the latest column in The Renal Pharmacist Newsletter, 'Ask the Group." In this forum, we will hopefully be able to address an issue with each edition of this newsletter.
This time around you are all asked to consider the question:

" How do you dose I.V. Vancomycin in Dialysis patients?"

If you are willing to provide an answer to be included into the collective "pool" please submit it to the Communications Coordinator via email or in writing. Answers of any length will be accepted. Obviously, references, etc. would be appreciated by some if you have the information readily available. A summary of the answers to this question will be posted in the next edition of The Renal Pharmacist. Questions can also be submitted for publication in the next newsletter as well.

IDPN continued....

much supplementation is required to account for patients disease states, the influence of dialysis, etc..)

For patient that are prescribed this regimen of nutritional support there are the potential for side effects. Parenteral nutrition has been associated with alteration in Liver Function Tests, along with the potential for reactive hypoglycemia following discontinuation of glucose solution supplementation.

The determination and ongoing monitoring of patient's nutritional status is very labour intensive. Dieticians in the area of nephrology play a key role in this regard. Through measurements of patient's biochemical factors, dietary histories, and body weight changes the aim is to identify patients who are struggling nutritionally and to supplement them when required. IDPN offers one effective route by which to accomplish this task.

For Your Information

A copy of the minutes from the general meeting held after the educational session on June 22, 1999 have been included in this newsletter. These are intended to keep in informed as the happenings of the RPN. Since it is certainly not possible for everyone to make it to each of the sessions that are planned, we will strive to keep in contact and to keep you informed.

Editorials accepted. Have an opinion to express? Please submit it. Anonymous submissions also accepted

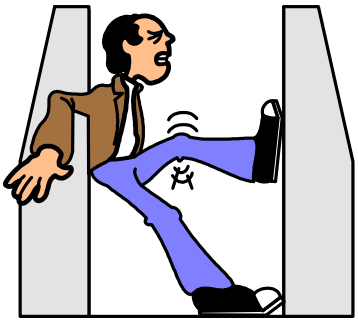
CLASSIFIEDS

WANTED.. Renal Pharmacists interested in developing an educational program for Community Pharmacists to educate them about the specifics of renal failure patients. This initiative is intended to assist the many community pharmacists who are seeing dialysis patients in their pharmacies with an increasing frequency. This initiative is being spearheaded by Lisa Sever, an RPN member. If interested, please contact her by email at L.Sever@aci.on.ca, or by phone at (905) 883-1212 ext 3335.

ADDRESSES.. It is a massive chore to keep track of all of the contact information for all of the members of the RPN. If your information changes, please be sure to forward it to the acting secretary (currently Gigi Wo) to ensure that the lists are kept up-to-date.

CREATIVITY.. Ideas? Thoughts? Words of Wisdom? We all have something to offer. This is your newsletter. Feel free to contribute to it in anyway that you can. It is time to create your "artwork" for the newsletter. Submission can be made to the Communications Coordinator at any time. Contact information is on page 1.

Are you feeling the pinch of things around you. Lack of resources (staff, etc), battles with drug benefits?



Did you know that Section 8 through the ODB program has granted coverage for Eurax cream for the management of Uremic Pruritis in Renal Failure Patients.

Have you found any other ways to "Beat the System" or help you cope in today's hectic and challenging work world. Please forward your words of advice for publication in this newsletter. We might as well all learn from each others successes or even failures. I'm sure the other members of the group would appreciate your stories.