

END-STAGE RENAL DISEASE

A MEDICAL DICTIONARY, BIBLIOGRAPHY,
AND ANNOTATED RESEARCH GUIDE TO
INTERNET REFERENCES



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FORWARD

In March 2001, the National Institutes of Health issued the following warning: "The number of Web sites offering health-related resources grows every day. Many sites provide valuable information, while others may have information that is unreliable or misleading."¹ Furthermore, because of the rapid increase in Internet-based information, many hours can be wasted searching, selecting, and printing. Since only the smallest fraction of information dealing with end-stage renal disease is indexed in search engines, such as **www.google.com** or others, a non-systematic approach to Internet research can be not only time consuming, but also incomplete. This book was created for medical professionals, students, and members of the general public who want to know as much as possible about end-stage renal disease, using the most advanced research tools available and spending the least amount of time doing so.

In addition to offering a structured and comprehensive bibliography, the pages that follow will tell you where and how to find reliable information covering virtually all topics related to end-stage renal disease, from the essentials to the most advanced areas of research. Public, academic, government, and peer-reviewed research studies are emphasized. Various abstracts are reproduced to give you some of the latest official information available to date on end-stage renal disease. Abundant guidance is given on how to obtain free-of-charge primary research results via the Internet. **While this book focuses on the field of medicine, when some sources provide access to non-medical information relating to end-stage renal disease, these are noted in the text.**

E-book and electronic versions of this book are fully interactive with each of the Internet sites mentioned (clicking on a hyperlink automatically opens your browser to the site indicated). If you are using the hard copy version of this book, you can access a cited Web site by typing the provided Web address directly into your Internet browser. You may find it useful to refer to synonyms or related terms when accessing these Internet databases. **NOTE:** At the time of publication, the Web addresses were functional. However, some links may fail due to URL address changes, which is a common occurrence on the Internet.

For readers unfamiliar with the Internet, detailed instructions are offered on how to access electronic resources. For readers unfamiliar with medical terminology, a comprehensive glossary is provided. For readers without access to Internet resources, a directory of medical libraries, that have or can locate references cited here, is given. We hope these resources will prove useful to the widest possible audience seeking information on end-stage renal disease.

The Editors

¹ From the NIH, National Cancer Institute (NCI): <http://www.cancer.gov/cancerinfo/ten-things-to-know>.

CHAPTER 1. STUDIES ON END-STAGE RENAL DISEASE

Overview

In this chapter, we will show you how to locate peer-reviewed references and studies on end-stage renal disease.

The Combined Health Information Database

The Combined Health Information Database summarizes studies across numerous federal agencies. To limit your investigation to research studies and end-stage renal disease, you will need to use the advanced search options. First, go to <http://chid.nih.gov/index.html>. From there, select the "Detailed Search" option (or go directly to that page with the following hyperlink: <http://chid.nih.gov/detail/detail.html>). The trick in extracting studies is found in the drop boxes at the bottom of the search page where "You may refine your search by." Select the dates and language you prefer, and the format option "Journal Article." At the top of the search form, select the number of records you would like to see (we recommend 100) and check the box to display "whole records." We recommend that you type "end-stage renal disease" (or synonyms) into the "For these words:" box. Consider using the option "anywhere in record" to make your search as broad as possible. If you want to limit the search to only a particular field, such as the title of the journal, then select this option in the "Search in these fields" drop box. The following is what you can expect from this type of search:

- **Advance Directives in End-Stage Renal Disease Inherently Involve Family and Staff**

Source: *Advances in Renal Replacement Therapy*. 5:(2): 109-119. April 1998.

Contact: Available from W.B. Saunders Company. Periodicals Department, 6277 Sea Harbor Drive, Orlando, FL 32887-4800. (800) 654-2452.

Summary: Advance directives (ADs) have a pivotal role in the practice of clinical nephrology. In this article, the authors offer their viewpoint on ADs, drawing on the present literature and on many case anecdotes from their own practice. The review focuses on the intrinsic value of an AD; the impact of family and staff on clinical outcome in general; family relationships and medical decision making, especially in the area of ADs, the importance of communication within families and between families

and staff, as characterized in family meetings; and the power of reconciliation when family members and staff let go. The authors note the difficult balance between treating aggressively to achieve desirable results but stopping just short of futility. Avoiding unwanted outcomes has prompted many individuals to spell out their wishes ahead of time to maintain control over their destiny and ensure personal dignity in their death. In the final analysis, the authors contend that ADs present the opportunity for approaching medical decision making in a manner that can lessen the stress of making difficult decisions for the patient and even promote peace of mind for all concerned family and staff. When staff members can address the situation with patients, family, and involved staff, the process of dying and the finality of death can be made somewhat less difficult. Case studies are provided to illustrate the concepts under discussion. 84 references.

- **Epidemic of End-Stage Renal Disease Among African Americans: Where Do We Go From Here?**

Source: *Renalife*. 14(4): 5, 9, 13, 18, 29. Winter 1999.

Contact: Available from American Association of Kidney Patients (AAKP). 100 South Ashley Drive, Suite 280, Tampa, FL 33602. (800) 749-AAKP or (813) 223-7099. E-mail: AAKPnat@aol.com. Website: www.aakp.org.

Summary: African Americans develop end-stage renal disease (ESRD) at a rate four times that of the overall U.S. population. This article discusses three challenges and opportunities relevant to renal failure among the African American community: prevention, facilitating transplantation, and maximizing the delivery of high quality dialysis care. The author contends that special strategies to deliver quality care and improve outcomes in the African American dialysis patient should improve the care for all Americans at risk for kidney failure. Outreach programs to improve awareness and understanding for high risk patients (those with diabetes, high blood pressure, or family history of kidney disease) are crucial first steps in prevention in the African American community. However, implementation of screening and treatment programs is complicated by limited access to health care and cultural attitudes about health care. Factors that can impact transplantation include fears of discrimination in the organ allocation process, concerns about meeting posttransplant medication costs, and fear of the operation itself. The author emphasizes the importance of successful crosscultural communication, particularly in support of patient involvement in dialysis options and pretransplant care and education. Key aspects of health for improving outcomes in all hemodialysis patients are discussed, including dialysis adequacy, avoiding severe anemia, good nutrition, blood pressure control, diabetes control, preventing bone disease, and vascular access. The author also discusses patient compliance and nonadherence to drug regimens or dialysis schedules, and the factors related to each. The author reiterates the need for patience and confirmation of patient understanding as the core factors in successful crosscultural communication and education. 3 tables.

- **Clinical Correlates of Hypertensive End-Stage Renal Disease**

Source: *American Journal of Kidney Diseases*. 31(1): 28-34. January 1998.

Contact: Available from W.B. Saunders Company. Periodicals Department, 6277 Sea Harbor Drive, Orlando, FL 32887-4800. (800) 654-2452 or (407) 345-4000.

Summary: Although there has been much discussion regarding the etiology of hypertensive (high blood pressure) renal (kidney) disease, clinical characteristics of this condition have not been thoroughly studied. This article reports on an investigation that identified clinical correlates of hypertensive end stage renal disease (ESRD) in a

population of patients older than 50 years and that compared these clinical findings with those in a group of ESRD patients with certain known disorders (established diagnoses). Data regarding demographics, cause of ESRD, educational level, presence of diabetes mellitus, angina, myocardial infarction (heart attack), and peripheral vascular disease were obtained from the Southeastern Kidney Council for patients starting renal replacement therapy between January 1990 and August 1996. Data showed hypertensive ESRD diagnosed in 24 percent of white and 38 percent of black patients, while established diagnoses were present in 17 percent of white and 7 percent of black ESRD patients. The most common established diagnoses were polycystic kidney disease, specific glomerulonephritis (infection or inflammation of the filtering units of the kidneys), and nephrolithiasis (kidney stones) or obstruction. White patients were found more likely to be classified as having hypertensive ESRD if they were older, suffered from angina and other forms of atherosclerosis, smoked, and were less educated. For black patients, the presence of peripheral vascular disease and female gender were associated with an increased chance of being diagnosed as having hypertensive ESRD. The authors conclude that the unique association of hypertensive ESRD with atherosclerosis suggests that atherosclerosis is a risk factor for chronic renal failure and that a primary renal microvascular condition may lead to both hypertension and progressive renal insufficiency. 7 tables. 28 references.

- **Family Caregivers: Caring for Aging End-Stage Renal Disease Partners**

Source: *Advances in Renal Replacement Therapy*. 5:(2): 98-108. April 1998.

Contact: Available from W.B. Saunders Company. Periodicals Department, 6277 Sea Harbor Drive, Orlando, FL 32887-4800. (800) 654-2452.

Summary: As the population of patients with end stage renal disease (ESRD) ages, increasingly their care and support burden falls on their families. This article focuses on the role changes, strains, and burdens for family caregivers, particularly spouses, in this situation. The author discusses the process of dramatic role changes and losses that occur within families and the resulting risks to dialysis patients and caregivers. The importance of constant assessment of caregivers by renal professionals is emphasized. Without reassessment, errors can be made in the area of how much dialysis patients can realistically be expected to do for themselves. As a general rule, however, both professionals and family caregivers should err on the side of encouraging as much independent and self-care as possible in patients. The author offers suggestions for families and professionals coping with role change and care burdens. The author raises concerns about American society shifting more care burdens onto families at a time of cultural change and stress on families, without providing enough societal support and programs to assist families adequately with care burdens of aging family members. Dialysis providers can be involved with direct patient and family care, as well as with essential debate at the professional and society level. 30 references. (AA-M).

- **Survival Improvement Among Patients with End-Stage Renal Disease: Trends over Time for Transplant Recipients and Wait-Listed Patients**

Source: *JASN. Journal of the American Society of Nephrology*. 12(6): 1293-1296. June 2001.

Contact: Available from Lippincott Williams and Wilkins. 12107 Insurance Way, Hagerstown, MD 21740. (800) 638-6423.

Summary: Both kidney transplant and dialysis outcomes have improved over recent years. In addition, transplantation has been shown to confer a survival benefit over

maintenance dialysis. This article reports on a study undertaken to determine whether the survival benefit of transplantation over maintenance dialysis has changed in the most recent eras. The study was based on data collected by the United States Renal Transplant Scientific Registry and the United States Renal Data System (USRDS). The study sample consisted of 104,000 patients placed on the renal transplant waiting list between 1988 and 1996, of which 73,707 subsequently received renal transplants. Overall annual adjusted death rates in the wait listed patients and transplant recipients per 1000 patient years decreased for both groups throughout the study period. From 1989 to 1996, the relative risk (RR) for patient death had decreased by 30 percent for transplant recipients and 23 percent for waitlisted patients. Slope analysis of the cause specific mortality rates for cardiovascular disease and infection showed nearly equivalent, linear decreases for both groups. Mortality (death) rates have improved overall and by categories of major cause of death for both renal transplant recipients and patients on the renal transplant waiting list. These favorable trends most likely represent equal advances in transplantation, dialysis, and general medical care. 6 figures. 1 table. 16 references.

- **Impact of Anemia Correction on Cardiovascular Disease in End-Stage Renal Disease**

Source: *Seminars in Nephrology*. 20(4): 350-355. July 2000.

Contact: Available from W.B. Saunders Company. Periodicals Department. 6277 Sea Harbor Drive, Orlando, FL 32887-4800. (800) 654-2452.

Summary: Cardiovascular disease (CVD) is a major cause of mortality and morbidity in patients with end stage renal disease (ESRD). This article explores the impact of anemia correction on CVD in patients with ESRD. Anemia, a result of erythropoietin deficiency, is associated with increased all cause and cardiovascular mortality in this population, and predisposes patients to the development of symptomatic heart disease. Anemia is also associated with the development and progression of left ventricular echocardiographic disorders, which strongly predict cardiac failure and death. Left ventricular dilatation with compensatory hypertrophy, the major pattern of echocardiographic disease progression in hemodialysis patients, is a particularly strong predictor of late mortality. Partial correction of anemia with recombinant human erythropoietin likely reduces left ventricular mass and volume. Complete correction of anemia may prevent progressive left ventricular dilatation in patients with normal left ventricular volumes. A recent trial, however, reports excess mortality and vascular access loss in patients with preexisting symptomatic heart disease when anemia was completely corrected. Consequently, hematocrit (red blood cells) target ranges above 32 to 36 percent cannot be recommended in this population. Despite improvements seen in echocardiographic disease in patients without symptomatic heart disease, it is not yet possible to conclude that potential benefits derived from a normalized hematocrit will outweigh potential risks in this subgroup of dialysis patients. 1 figure. 5 tables. 34 references.

- **Survival After Acute Myocardial Infarction in Patients with End-Stage Renal Disease: Results from the Cooperative Cardiovascular Project**

Source: *American Journal of Kidney Diseases*. 35(6): 1044-1051. June 2000.

Contact: Available from W.B. Saunders Company. Periodicals Department, 6277 Sea Harbor Drive, Orlando, FL 32887-4800. (800) 654-2452 or (407) 345-4000.

Summary: Cardiovascular disease (CVD) is the most common cause of death in patients with end stage renal disease (ESRD). The optimal management strategy in this

population is unknown. This article reports on a study of 640 patients with ESRD and acute myocardial infarction during 1994 to 1995 as part of the Health Care Financing Administration's Cooperative Cardiovascular Project. The majority of patients were treated with medical therapy alone, 46 patients (7 percent) were treated with percutaneous transluminal coronary angioplasty (PTCA), and 29 patients (5 percent) underwent coronary artery bypass grafting (CABG). Patient characteristics and comorbid conditions were similar among the three groups. The overall 1 year mortality (death) rate was 53 percent. Advanced age, low or high body mass index, history of peripheral vascular disease or stroke, the inability to walk independently, and several indicators of cardiac dysfunction were associated with an increased relative risk (RR) for death. Survival curves differed significantly by treatment modality, with 1 year survival rates of 45 percent, 54 percent, and 69 percent in the medical therapy alone, PTCA, and CABG groups, respectively. There are no randomized clinical trial data to guide therapy of CVD in patients with ESRD. On the basis of this study and other available data, CABG may be the optimal therapy for CVD in ESRD. In light of the exceptionally poor outcomes observed for patients treated with medical therapy alone, it may be premature to dismiss PTCA as a therapeutic option in this population. 1 figure. 3 tables. 27 references.

- **Diagnosis and Management of Coronary Artery Disease in Patients With End-Stage Renal Disease on Hemodialysis (editorial review)**

Source: JASN. Journal of the American Society of Nephrology. 7(10): 2044-2054. October 1996.

Summary: Cardiovascular disease accounts for almost half of the total mortality in patients with end-stage renal disease (ESRD). The markedly increased prevalence of atherosclerotic cardiovascular disease in patients with ESRD is influenced, at least in part, by numerous risk factors for atherosclerosis, with hypertension, diabetes mellitus, and hypercholesterolemia being particularly important. This article reviews the diagnosis and management of coronary artery disease (CAD) in patients with ESRD on hemodialysis. Because atherosclerotic CAD, whether symptomatic or asymptomatic, is associated with an increased incidence of allograft failure and mortality, there is a need for careful evaluation for the presence of CAD in those persons who are under consideration for renal transplantation. Candidates with angina pectoris, previous myocardial infarction, or congestive heart failure are at particularly high risk of a cardiac event. Therefore, these patients should routinely undergo pretransplant coronary angiography and subsequent surgical revascularization if angina is refractory to medical therapy or CAD is extensive. In contrast, although young, nondiabetic transplant candidates without symptoms or electrocardiographic evidence of CAD have an increased relative risk of cardiac death when compared with age-matched control subjects, their absolute risk of such an event is very low. As a result, they do not require a cardiac evaluation before transplantation. For the remaining transplant candidates at neither low nor high risk of a fatal or nonfatal cardiac event, the authors routinely perform thallium imaging with dipyridamole or two-dimensional echocardiography with intravenous dobutamine. Percutaneous transluminal coronary angioplasty is not recommended in patients with ESRD because it appears to be accompanied by a high likelihood of acute and chronic complications. 5 figures. 2 tables. 96 references. (AA-M).

- **Anemia, Hypertension, and Myocardial Dysfunction in End-Stage Renal Disease**

Source: Seminars in Nephrology. 17(4): 257-269. July 1997.

Contact: Available from W.B. Saunders Company. Periodicals Department, 6277 Sea Harbor Drive, Orlando, FL 32887-4800. (800) 654-2452.

Summary: Cardiovascular disease remains the major cause of mortality in patients with end-stage renal disease (ESRD). This article addresses myocardial dysfunction in patients with ESRD. The pathophysiology of cardiac dysfunction in ESRD is complex and not fully understood. However, it appears that the two major determinants of left ventricular (LV) hypertrophy and dysfunction are anemia and hypertension, both of which are very common in ESRD patients. Early and aggressive correction of anemia and hypertension may have a significant impact on cardiac disease in ESRD patients. The authors' discussion focuses on the management of anemia and hypertension, and the current information available on the pathogenesis and management of LV dysfunction in ESRD. The authors report on the use of various hypertensive agents, summarizing the side effects of these agents, as well as comorbid conditions influencing choice of drugs. The most current recommendation for treating anemia is to administer erythropoietin (EPO) to all anemic patients with advanced renal failure. The most likely etiology for a suboptimal response to EPO is iron deficiency. It is recommended that iron stores be checked and supplemented before EPO therapy is started. Even in the presence of adequate stores at the start of therapy, patients may rapidly deplete their iron stores during the hematopoietic response to EPO. The authors conclude that, due to the complexity of the pathogenesis of cardiac dysfunction in uremic patients, a multidimensional approach is necessary. Control of hypertension and correction of anemia are important in the longterm management of heart failure. 4 tables. 125 references. (AA-M).

- **Cost Analysis of Ongoing Care of Patients with End-Stage Renal Disease: The Impact of Dialysis Modality and Dialysis Access**

Source: American Journal of Kidney Diseases. 40(3): 611-622. September 2002.

Contact: Available from W.B. Saunders Company. Periodicals Department, 6277 Sea Harbor Drive, Orlando, FL 32887-4800. (800) 654-2452 or (407) 345-4000.

Summary: Care of patients with end stage renal (kidney) disease (ESRD) is important and resource-intensive. To enable ESRD programs to develop strategies for most cost-efficient care, an accurate estimate of the cost of caring for patients with ESRD is needed. This article reports on a study undertaken to develop an updated and accurate itemized description of costs and resources required to treat patients with ESRD on dialysis therapy and to contrast the differences in resources required for various dialysis modalities. The study included 166 patients who had been on dialysis therapy for longer than 6 months. Costs considered included those related to outpatient dialysis care, inpatient care, outpatient nondialysis care, and physician claims. Results showed overall annual cost of care for in-center care was US \$51,252; for satellite care, \$42,057; for home care hemodialysis \$29,961; and for peritoneal dialysis \$26,959. Among patients treated with hemodialysis, the costs of vascular access related care was lower by more than fivefold for patients who began the study period with a functioning native arteriovenous fistula compared with those treated with a permanent catheter or synthetic graft. The authors conclude that, to maximize the efficiency with which care is provided to patients with ESRD, dialysis programs should encourage the use of home or self care hemodialysis and peritoneal dialysis. 4 tables. 41 references.

- **Recreational Drug Use: A Neglected Risk Factor for End-Stage Renal Disease**

Source: American Journal of Kidney Diseases. 38(1): 49-56. July 2001.

Contact: Available from W.B. Saunders Company. Periodicals Department, 6277 Sea Harbor Drive, Orlando, FL 32887-4800. (800) 654-2452 or (407) 345-4000.

Summary: Case series have suggested that heroin and cocaine users are at increased risk for renal (kidney) failure, but the contribution of heroin and other addictive drugs to the incidence of end stage renal disease (ESRD) in the general population remains unknown. This article reports on a study undertaken to clarify this issue. The authors conducted a case control study in the general population to examine associations between drug use and treated ESRD. Cases were 716 patients who started therapy for ESRD in 1991, identified through a regional registry. Controls were 361 persons of similar age (20 to 65 years) selected by random digit dialing. Main risk factors examined were the lifetime use of heroin, cocaine, and other addictive drugs, assessed by telephone interview. After adjustment for age, sex, race, socioeconomic status, and history of hypertension (high blood pressure) and diabetes, results showed that persons who had ever used heroin or other opiates (any amount) were at increased risk for ESRD. After adjustment for the same sociodemographic and medical history variables, the use of cocaine or crack and psychedelic drugs was also associated with ESRD, but these associations could not be separated from the effects of heroin use. The authors briefly discuss the mechanisms that may be involved in heroin induced renal disease. 4 tables. 32 references.

- **Patient Satisfaction with Care and Behavioral Compliance in End-Stage Renal Disease Patients Treated with Hemodialysis**

Source: American Journal of Kidney Diseases. 39(6): 1236-1244. June 2002.

Contact: Available from W.B. Saunders Company. Periodicals Department, 6277 Sea Harbor Drive, Orlando, FL 32887-4800. (800) 654-2452 or (407) 345-4000.

Summary: Compliance with the hemodialysis (HD) prescription is an important predictor of patient outcome. Although there is interest in the concept of patient satisfaction with medical care and caregivers, relatively few such data exist regarding HD patients. This article reports on a study that examined whether associations exist between patient satisfaction with medical personnel, depressive affect, social support levels, and behavioral compliance with prescribed HD treatment. The study included 79 HD patients who went through an interview process that assessed depression, social support, and perception of satisfaction with dialysis staff. Medical and treatment data, Karnofsky functioning and severity of illness scores, and behavioral and laboratory compliance measures were determined. There was no association between patient satisfaction with care and level of depressive affect. A relationship was found between patient satisfaction with care with their nephrologist and attendance at dialysis sessions. Patients who had a poor perception of satisfaction with their nephrologist had poorer attendance at dialysis sessions. There was no relationship between behavioral compliance and patient perception of ancillary HD staff. In addition, patient perception of satisfaction with staff was related to perception of social support, protein catabolic rate, and serum albumin concentration, all of which have been linked to survival. The authors conclude that the nephrologist has a crucial role in patient compliance. These results suggest that interventions to improve patient perception of physician support may also improve patient adjustment and possibly survival. 6 tables. 28 references.

- **Simultaneous Pancreas-Kidney Transplant Compared with Kidney Transplant in Type 1 Diabetic Patients with End-Stage Renal Disease**

Source: Transplantation Proceedings. 34(1): 204-205. February 2002.

Contact: Available from Elsevier Science Inc. 655 Avenue of the Americas, New York, NY 10010. (212) 633-3730. Website: www.elsevier.com.

Summary: Diabetic nephropathy (kidney disease) as a result of diabetes mellitus type 1 is the etiology (cause) of terminal renal (kidney) insufficiency in 6 percent of patients on a dialysis program and in 8.7 percent of kidney transplant patients. This group of patients can benefit from a combined pancreas-kidney transplant (PKT), rather than an isolated kidney transplant. So contend the authors of this study of simultaneous pancreas-kidney transplant compared with kidney transplant. The authors assess the number of rejections, kidney graft function, kidney and pancreas graft survival, and patient survival during the first 2 post transplant years. Patients who receive a PKT show acute rejection, kidney graft function, and patient survival rates that are comparable with those of diabetes patients receiving an isolated kidney transplant. However, morbidity is greater in the PKT group, as are complications, particularly in the first posttransplant year, which is reflected by longer hospital stays. Graft survival is significantly greater in the PKT group than in the KT group, probably due to the new immunosuppression used in the majority of the patients in this group, as a large part of them were transplanted more recently than the isolated kidney transplants. 8 references.

- **End-Stage Renal Disease: Are We Ready for an Emerging Epidemic? (editorial)**

Source: *Postgraduate Medicine*. 108(1): 13-15. July 2000.

Contact: Available from McGraw-Hill, Inc. 1221 Avenue of the Americas, New York, NY 10020. (612) 832-7869.

Summary: End stage renal (kidney) disease (ESRD) has occupied a unique place in the U.S. health care system since 1972, when Social Security extended Medicare coverage to patients under age 65 with ESRD or chronic kidney failure who require dialysis or a kidney transplant. Since that time, more than a million such patients have entered the Medicare entitlement program. This editorial explores the readiness of the medical community to handle this emerging epidemic. The author discusses progress in reducing the rate of ESRD development in the United States; efforts that can further reduce the rate of kidney failure, primarily by concentrating on patients with chronic renal insufficiency in the period prior to dialysis or transplantation; and the growing role for primary care physicians in early recognition and treatment of patients with chronic renal insufficiency. The author contends that the decline in the number of specialists being trained in nephrology in the face of an increasing number of patients with ESRD raises questions as to the ability of health care providers to care for these patients in the future. One sidebar explains the role of the U.S. Renal Data System (USRDS), an agency that collects, analyzes, and distributes information about ESRD in the United States. 1 table. 2 references.

- **Incidence Trends and Mortality in End-Stage Renal Disease Attributed to Renovascular Disease in the United States**

Source: *American Journal of Kidney Diseases*. 37(6): 1184-1190. June 2001.

Contact: Available from W.B. Saunders Company. Periodicals Department, 6277 Sea Harbor Drive, Orlando, FL 32887-4800. (800) 654-2452 or (407) 345-4000.

Summary: End stage renal disease (ESRD) attributed to renovascular disease (RVD ESRD) has been incompletely characterized. This article reports on a study in which the authors determined incidence trends, clinical features, prior treatment, and survival of patients with RVD ESRD using the United States Renal Data System database. Primary

causes of ESRD were assessed in patients starting ESRD therapy during 1991 to 1997. The incidence of RVD ESRD increased from 1.4 percent of new ESRD cases to 2.1 percent of new ESRD cases; the annualized increase was 12.4 percent per year. This is a greater rate of increase than for ESRD from diabetes mellitus (DM ESRD; 8.3 percent per year) and ESRD overall (5.4 percent per year). The risk for RVD ESRD versus other cause ESRD correlated positively with age, and male sex, and negatively with black, Asian, and Native American race. The unadjusted prevalence of coronary heart disease, cerebrovascular disease (including stroke), and peripheral vascular disease was greater in patients with RVD ESRD versus other cause ESRD. Adjusted for age, race, sex, comorbidity (other illnesses present), and laboratory values, the survival of patients with RVD ESRD was similar to that for patients with other cause ESRD. These findings suggest that RVD ESRD is increasing faster than other cause ESRD and is not independently associated with an increased mortality risk. The authors conclude that strategies may exist to prevent progression to ESRD and merit priority for further study. 5 figures. 4 tables. 22 references.

- **Understanding and Affirming the Sexual/Relationship Realities of End-Stage Renal Disease Patients and Their Significant Others**

Source: *Advances in Renal Replacement Therapy*. 5:(2): 81-88. April 1998.

Contact: Available from W.B. Saunders Company. Periodicals Department, 6277 Sea Harbor Drive, Orlando, FL 32887-4800. (800) 654-2452.

Summary: End stage renal disease (ESRD) frequently occurs within the social context of relationships and has many predictable consequences in the experience of patients and their significant others. This article offers suggestions for health care providers on understanding and affirming the sexual and relationship realities of ESRD patients and their significant others. The author stresses that relationship and sexual issues and concerns must be assessed early in the treatment process and be continually attended to as patients seek new levels of coping. Sex-role conflicts, changes in sexual functioning and sexual self-esteem, challenges to both physical and emotional intimacy, and the life altering consequences of chronic illness are all very real for ESRD patients. If professionals are untrained in the area of human sexuality and sex therapy or uncomfortable discussing these issues, which is often the case, they need to enlist others in the community to assist in the process. Individual and couple counseling must be available. Couple support groups are an especially effective vehicle in which to address the real life concerns of couples coping with chronic illness because they allow couples to help other couples. 32 references. (AA-M).

- **End-Stage Renal Disease Projections for Canada to 2005 Using Poisson and Markov Models**

Source: *International Journal of Epidemiology*. 27(2): 274-281. April 1998.

Contact: Available from Oxford University Press. Journals Subscription Department, Great Clarendon Street, Oxford OX2 6DP, UK. 44 (0)1865 267907. Fax 44 (0)1865 267485.

Summary: End stage renal disease (ESRD) incidence and prevalence are increasing in many countries worldwide. Due to the high cost of therapy, predicting future numbers of patients requiring dialysis and transplantation is necessary for health care planners. However, projecting therapy specific chronic disease prevalence is inherently problematic, and examples of suitable models and their application are sparse. This article describes and illustrates a method for projecting therapy specific ESRD prevalence in Canada for 1995 through 2005 using data obtained from the Canadian

Organ Replacement Register. The projections combine the Poisson model for incidence rates and a Markov model for patient followup. Model adequacy is empirically validated by data splitting. The results showed that large increases in ESRD prevalence are expected in Canada, with an average annual increase of 6.9 percent projected for 1995 to 2005. Upon validation, the projection model based on 1981 to 1987 data was able to predict 1994 prevalence within 1 percent, while projected therapy specific prevalences closely approximated those observed. The authors conclude that therapy specific ESRD prevalence was successfully projected using Poisson and Markov models. Where multistate prevalence forecasts are required, the method could be augmented for application to various other chronic diseases. 4 figures. 7 tables. 25 references.

- **Trends in End-Stage Renal Disease: Epidemiology, Morbidity and Mortality**

Source: *Postgraduate Medicine*. 108(1): 124-126, 129-131, 135-136, 140, 142. July 2000.

Contact: Available from McGraw-Hill, Inc. 1221 Avenue of the Americas, New York, NY 10020. (612) 832-7869.

Summary: End stage renal disease (ESRD), which is often related to diabetes or hypertension, is a serious medical and economic public health problem throughout the world. An understanding of the scope of this condition, as well as the trends in its outcome, is essential for optimizing treatment of ESRD and establishing meaningful strategies for prevention. In this article, the author describes the epidemiology of ESRD and reviews the trends in morbidity and mortality for patients undergoing dialysis or renal (kidney) transplantation. The extraordinary mortality rate among patients with underlying comorbid conditions, such as diabetes or atherosclerotic vascular disease, points to areas needing special attention. However, the author notes that both mortality among dialysis patients and the rate at which ESRD has increased over the past decade are declining. The primary goal should be prevention of ESRD. Aggressive treatment of hypertension and hyperglycemia is likely to reduce the incidence of ESRD. The author concludes that screening for diabetes and hypertension may be a good approach to reducing ESRD rates, because many patients present with renal failure after prolonged periods of undiagnosed hypertension or type 2 diabetes. 6 figures. 15 references.

- **Growth Failure, Risk of Hospitalization and Death of Children with End-Stage Renal Disease**

Source: *Pediatric Nephrology*. 17(6): 450-455. June 2002.

Contact: Available from Springer-Verlag. Service Center Secaucus, 44 Hartz Way, Secaucus, NJ 07094. (201) 348-4033.

Summary: Growth failure remains a significant problem for children with chronic renal insufficiency and end stage renal disease (ESRD). This article reports on a study that examined whether growth failure is associated with more-frequent hospitalizations or higher mortality in children with kidney disease. The authors studied data on prevalent United States pediatric patients with ESRD in 1990 who were followed through 1995. Patients were categorized according to the standard deviation score (SDS) of their incremental growth during 1990. Among 1,112 prevalent pediatric dialysis and transplant patients, those with severe and moderate growth failure had higher hospitalization rates respectively than those with normal growth after adjustment for age, gender, race, cause and duration of ESRD, and treatment modality in 1990. Survival analysis showed 5 year survival rates of 85 percent and 90 percent for patients with severe and moderate growth failure, respectively, compared with 96 percent for patients with normal growth. A higher proportion of deaths in the severe and moderate growth