In hypertension or angina... Control That’s Easy to Live With

HIGH RATE OF SUCCESS IN AN NIH-SPONSORED STUDY

83% of hypertensive patients—the highest percentage—remained on initial therapy with NORVASC® (amlodipine besylate) after 4 years; nearly all patients were on the 5-mg starting dose.

LOW RATE OF DISCONTINUATION

ONLY 1.5% of patients in placebo-controlled studies (n=1730) discontinued therapy due to adverse effects.

PROVEN SAFETY

No negative inotropic effects at clinical doses in hemodynamic studies.
No clinically significant effect on cardiac conduction or heart rate.

*Similar hemodynamic findings, however, have been observed with agents possessing significant negative inotropic effects.

Once-Daily NORVASC® (amlodipine besylate)

EFFICACY AND SAFETY THAT’S EASY TO LIVE WITH
In hypertension or angina, convenient once-daily dosing

- The usual starting dose is 5 mg in hypertension or angina
-Titration can proceed to 10 mg
- Most angina patients will require 10 mg
-Can be taken with or without food
- The most common side effects are headache and edema

Rx
NORVASC
Tablets 5 mg and 10 mg tablets®
(amlodipine besylate)

Once-Daily

Efficacy and safety that’s easy to live with

Brief Summary

NORVASC® (amlodipine besylate) Tablets

For Oral Use

CONTRAINDICATIONS: NORVASC is contraindicated in patients with known sensitivity to amlodipine. CAUTION: Increased Angina and/or Myocardial Infarction: Rarely, patients, particularly those with severe obstructive coronary artery disease, have developed documented increased frequency, duration, and severity of angina with or without a rising calcium channel blocker than at the time of dosage increase. The mechanism of this effect has not been elucidated.

PHARMACODYNAMICS: Since the mechanism of action of NORVASC is gradual onset, acute hypertension has rarely been reported after oral administration of NORVASC. Nonetheless, caution should be exercised when administering NORVASC, as with any other peripheral vasodilator, particularly in patients with severe hepatic impairment. In patients with Congestive Heart Failure: In general, calcium channel blockers should be used with caution in patients with heart failure. NORVASC (5 mg per day) has been studied in a placebo-controlled trial of 1153 patients with stable effort angina, 67% of whom had class III or IV heart failure, digoxin, and diuretics. The mean duration of treatment was at least 6 months, with a mean of about 14 months. There was no overall adverse effect on survival or cardiac mortality (as defined by the Framingham risk, a basic myocardial infarction, hospitalisation for worsening angina, or death). NORVASC has been compared to placebo in four 8-12 week studies of patients with NYHA Class II heart failure, involving a total of 267 patients. In these studies, there was no overall adverse effect on survival or cardiac mortality (as defined by the Framingham risk, a basic myocardial infarction, hospitalisation for worsening angina, or death).

BETA-BLOCKER WITHDRAWAL: NORVASC is not a beta-blocker and therefore gives no protection against the dangers of abrupt beta-blocker withdrawal. It is still prudent to withdraw any beta-blocker used in conjunction with this product. Patients with Hepatic Failure: Since NORVASC is extensively metabolized by the liver and the plasma elimination half-life of 30-50 h in patients with impaired hepatic function, caution should be exercised when administering NORVASC to patients with severe hepatic impairment. Drug Interactions: In vitro data in human plasma indicate that NORVASC has no effect on the protein binding of drugs unlikely to be competitively inhibited by hepatic metabolism, i.e., warfarin, phenytoin, and indomethacin. Special studies indicate that the co-administration of NORVASC with digoxin did not change serum digoxin levels or digoxin renal clearance in normal volunteers, that co-administration of cimetidine did not alter the pharmacokinetics of amlodipine, and the co-administration with warfarin did not change the warfarin prothrombin response time.

In clinical trials, NORVASC has been safely administered with thiazide diuretics, beta-blockers, angiotensin converting enzyme inhibitors, long-acting nitrates, sulfinpyrazone, low-dose aspirin, non-steroidal anti-inflammatory drugs, aspirin, and oral hypoglycemic drugs.

DOSAGE AND ADMINISTRATION

Cardiovascular: Hypertension: In clinical trials, NORVASC has been safely administered with thiazide diuretics, beta-blockers, angiotensin converting enzyme inhibitors, long-acting nitrates, sulfinpyrazone, low-dose aspirin, non-steroidal anti-inflammatory drugs, aspirin, and oral hypoglycemic drugs.

NORVASC tablets are square, bilayered, white to off-white with one side scored and the other side embossed “36”. Each tablet contains amlodipine besylate 5 mg and 10 mg. NORVASC is available in 5 mg round, 10 mg round and 5 mg and 10 mg film-coated tablets.

EDUCATION: A patient information leaflet should be provided to all patients receiving NORVASC to explain the nature and implications of this therapy, and to highlight the importance of community support and education in managing chronic illness. Outpatients are advised to contact a physician if symptoms occur during treatment or if symptoms develop and persist. The most important adverse effects are headache and edema.

References


Copyright © 2002 Pfizer Inc. All rights reserved.
This bacterium can cost a life. 

The hemodialysis patient population has a high incidence of catheter-related bacteremias. Overall, central venous catheter-related nosocomial infections occur at a rate of 3% to 12%, with a 10-20% fatality rate. Fortunately, there is a catheter that can help minimize this risk and its associated costs in your hospital.

ARROWgaard Blue®, the only antiseptic-impregnated CVC, has been shown to reduce the incidence of catheter-related bloodstream infection (CRBSI) by as much as 80%.

Don't take unnecessary chances. For more information, contact your Arrow representative or call us directly by dialing 800 523-8446 or 610 378-0131.

DIALYSIS KEEPS HER GOING.
Today, a growing consensus supports managing ESRD patients in the upper half of the 30–36% hematocrit range.

- New NKF-DOQI guidelines recommend hematocrits of 33–36%.1

- Two new studies suggest an association between hematocrits of 33–36% and reduced hospitalization.2,3 Reduced hospitalization may reduce the cost of care.

The future? Hematocrits higher in the target range mean more dialysis patients can be feeling better. Doing better. And going stronger.

Let’s keep it up.

Recommended Hematocrit Ranges

HIGHER HEMATOCRITS LEAD TO BETTER OUTCOMES.

*The EPOGEN® package insert recommends a target hematocrit range of 30% to 36%.

EPOGEN® is indicated for the treatment of anemia in dialysis patients with chronic renal failure. Patients who receive EPOGEN® may experience adverse effects such as hypertension or flu-like symptoms.

Please see brief summary of prescribing information on following page.

INDICATIONS AND USAGE — EPOGEN® is indicated for the treatment of anemia associated with chronic renal disease (CRF), anemia associated with cancer refractory to standard therapy, and anemia associated with dialysis. EPOGEN® is indicated to elevate or maintain the red blood cell level as manifested by the hemoglobin (Hb) or hemoglobin/determined to and decrease the need for transfusions in these patients.

CONTRAINDICATIONS — EPOGEN® is contraindicated in patients with: (1) uncontrolled hypertension; (2) hyperthyroidism; (3) unstable angina; and (4) cardiac arrest. EPOGEN® has been administered to patients with hypertension; however, it is not known whether EPOGEN® will be effective in patients with hypertension.

WARNINGS AND PRECAUTIONS: The use of EPOGEN® may affect the results of certain laboratory tests. These include: (1) blood urea nitrogen (BUN), creatinine, aspartate aminotransferase (AST), alanine aminotransferase (ALT), alkaline phosphatase (ALP), total bilirubin and uric acid; and (2) cephalosporin antibiotics. When these tests are performed on patients with EPOGEN®, the results may be higher than expected.

Mounters Method: Postural observations of the live clipping (if 1 generations of female rats treated with EPOGEN® during gestation and lactation revealed decreases in body weight gained, delay in appearance of abdominal hair, eyelid opening, delayed ossification, and decreases in the number of caudal vertebrae in the I° females of the 500 U/kg group. In female rats treated with 1% of EPOGEN®, there was a trend for slightly increased skeletal wastage at doses of 100 and 500 U/kg.

DOSAGE AND ADMINISTRATION

Starting Dose: 50 to 100 U/kg TID; IV or SC

Reduce Dose When:

1. HCT decreases to less than 46% of target range

Increase Dose:

1. HCT increases more than 4 points in any 2-week period

Maintenance Dose: 0.05 U/kg TID; IV or SC

Suggested Target HCT Range: 36% to 39%
The only liquid growth hormone.

Eliminates the need for reconstitution.

Nutropin AQ is indicated for the treatment of growth failure due to a lack of adequate endogenous growth hormone secretion, growth failure associated with chronic renal insufficiency up to the time of renal transplantation, and short stature associated with Turner syndrome.

Important safety information

Growth hormone should not be used in patients with closed epiphyses or active neoplasia. Growth hormone therapy should be discontinued if evidence of neoplasia develops.

From Genentech, Inc.

Offering your patients the broadest line of growth hormone products and services.

For more information, call 1-800-530-3083.

Nutropin AQ
[somatropin (rDNA origin) injection]
It's Already Ready.
NUTROPIN AQ®
(somatropin (hGH origin) injection)

BRIEF SUMMARY

The following is a brief summary. Before prescribing, please consult full prescribing information, including DOSAGE AND ADMINISTRATION.

INDICATIONS AND USAGE

NUTROPIN AQ® (somatropin (hGH origin) injection) is indicated for the long-term treatment of growth failure due to a lack of adequate endogenous growth hormone secretion.

NUTROPIN AQ® (somatropin (hGH origin) injection) is also indicated for the treatment of growth failure associated with chronic renal insufficiency up to the time of renal transplantation. NUTROPIN AQ therapy should be used in conjunction with optimal management of chronic renal insufficiency.

NUTROPIN AQ® (somatropin (hGH origin) injection) is also indicated for the long-term treatment of short stature associated with Turner syndrome.

CONTRAINDICATIONS

NUTROPIN AQ should not be used in subjects with closed epiphyses.

NUTROPIN AQ should not be used in patients with active neoplasia. Growth hormone (hGH) therapy should be discontinued if evidence of neoplasia develops.

WARNINGS: None.

PRECAUTIONS

General: NUTROPIN AQ should be prescribed by physicians experienced in the diagnosis and management of patients with growth failure due to hGH deficiency (GHD), Turner syndrome, or chronic renal insufficiency (CRI). No studies have been completed of NUTROPIN AQ therapy in patients who have received renal transplants. Currently, treatment of patients with functioning renal allografts is not indicated.

Because NUTROPIN AQ may reduce insulin sensitivity, patients should be monitored for evidence of glucose intolerance.

Patients with a history of an intracranial lesion should be examined frequently for progression or recurrence of the lesion.

Patients with growth failure secondary to CRI should be examined periodically for evidence of progression of renal osteodystrophy. Slipped capital femoral epiphysis or avascular necrosis of the femoral head may be seen in children with advanced renal osteodystrophy, and it is uncertain whether these problems are affected by hGH therapy. X-rays of the hips should be obtained prior to initiating therapy for CRI patients. Physicians and parents should be alerted to the development of a limp or complaints of hip or knee pain in patients treated with NUTROPIN AQ.

Slipped capital femoral epiphysis may also occur more frequently in patients with endocrine disorders or in patients undergoing rapid growth.

Progression of scoliosis can occur in patients who experience rapid growth. Because hGH increases growth rate, patients with a history of scoliosis who are treated with hGH should be monitored for progression of scoliosis. Growth hormone has not been shown to decrease the incidence of scoliosis. Skeletal abnormalities including scoliosis are commonly seen in untreated Turner syndrome patients. Physicians should be alert to these abnormalities, which may manifest during hGH therapy.

Patients with Turner syndrome should be evaluated carefully for otitis media and other ear disorders since these patients have an increased risk of ear or hearing disorders. In a randomized-controlled trial, there was a statistically significant increase, as compared to untreated controls, in otitis media (43% vs. 26%) and ear disorders (18% vs. 5%) in patients receiving hGH. In addition, patients with Turner syndrome should be monitored closely for cardiovascular disorders (e.g., aortic aneurysm, hypertension) as these patients are also at risk for these conditions.

Intracranial hypotension (IR) with papilledema, visual changes, headache, nausea and/or vomiting has been reported in a small number of patients treated with hGH products. Symptoms usually occurred within the first six to eight (6-8) weeks of the initial administration of hGH therapy. In all reported cases, IR-associated signs and symptoms resolved after termination of therapy or a reduction of the hGH dose. Funduscopic examination of patients is recommended at the initiation and periodically during the course of the hGH therapy. Patients with CRI and Turner syndrome may be at increased risk for development of IR.

As for any protein, local or systemic allergic reactions may occur. Parents/ Patients should be informed that such reactions are possible and that prompt medical attention should be sought if allergic reactions occur.

Laboratory Tests: Serum levels of inorganic phosphorus, alkaline phosphatase, and parathyroid hormone (PTH) may increase with NUTROPIN AQ therapy.

Unintended hypoglycemia presents optimal response to NUTROPIN AQ. Patients with Turner syndrome have an inheritable increased risk of developing surreptitious thyroid disease. Changes in thyroid hormone laboratory measurements may develop during NUTROPIN AQ treatment. Therefore, patients should be informed of the importance of thyroid hormone monitoring before and during the course of hGH therapy.

Drug Interaction: The use of NUTROPIN AQ in patients with CRI receiving glucocorticoid therapy has not been evaluated. Concomitant glucocorticoid therapy may inhibit the growth-promoting effect of NUTROPIN AQ. If glucocorticoid replacement is required, the glucocorticoid dose should be carefully adjusted.

There was no evidence in the controlled studies of somatropin’s interaction with drugs commonly used in CRI patients. Limited published data indicate that GH treatment increases creatinine P450 (C450) mediated antineoplastic clearances in man. These data suggest that C450 administration may alter the clearance of compounds known to be metabolized by C450 liver enzymes (e.g., cyclophosphamide, vincristine, vinblastine, and fotemustine). Careful monitoring is advised if C450 is administered in combination with other drugs known to be metabolized by C450 liver enzymes.

Carcinogenesis, Mutagenesis, Impairment of Fertility: Carcinogenicity, mutagenicity, and reproduction studies have not been conducted with NUTROPIN AQ.

Pregnancy: Pregnancy (Category C). Animal reproduction studies have not been conducted with NUTROPIN AQ. It is also not known whether NUTROPIN AQ can cause fetal harm when administered to a pregnant woman or can affect reproduction capacity. NUTROPIN AQ should be given to a pregnant woman only if clearly needed.

Nursing Mothers: It is not known whether NUTROPIN AQ is excreted in human milk. Because many drugs are excreted in human milk, caution should be exercised when NUTROPIN AQ is administered to a nursing mother.

Information for Patients: Patients being treated with hGH and/or their parents should be informed of the potential benefits and risks associated with treatment. If home use is determined to be desirable by the physician, instructions on appropriate use should be given, including a review of the contents of the Patient Information Insert. This information is intended to aid in the safe and effective administration of the medication. It is not a disclosure of all possible adverse or intended effects.

If home use is prescribed, a puncture resistant container for the disposal of used syringes and needles should be recommended to the patient. Patients and/or parents should be thoroughly instructed in the importance of proper disposal and cautioned against any reuse of needles and syringes (see Patient Information Insert).

ADVERSE REACTIONS

As with all protein pharmacologicals, a small percentage of patients may develop antibodies to the protein. Growth hormone (hGH) antibodies (binding capacities below 2 mg/dl) have not been associated with growth attenuation. In some cases when binding capacity exceeds 2 mg/dl, growth attenuation has been observed. In clinical studies of patients that were treated with GHAX (somatropin (hGH origin) for injection) for the first time, 0/107 GHAX patients, 0/113 GH patients, and 0/16 Turner syndrome patients screened for antibody production developed antibodies with binding capacities <2 mg/dl at six months. In a clinical study of patients that were treated with NUTROPIN AQ (somatropin (hGH origin) for injection) for the first time, 0/38 GHAX patients screened for antibody production, for up to 15 months, developed antibodies with binding capacities <2 mg/dl.

Additional short-term immunogenic and renal function studies were carried out in a group of patients with CRI after approximately one year of treatment to detect other potential adverse effects of growth hormone. Testing included measurements of Clq, C3, C4, rheumatoid factor, creatinine, creatinine clearance, and BUN. No adverse effects of growth hormone antibodies were noted.

In addition to an evaluation of compliance with the prescribed treatment program and thyroid status, testing for antibodies to human growth hormone should be carried out in any patient who fails to respond to therapy.

Injection site discomfort has been reported. This is more commonly observed in children switched from another GH product to NUTROPIN AQ.

Leukemia has been reported in a small number of GHAX patients treated with GH. It is uncertain whether this increased risk is related to the pathologic effect of GH itself, GH therapy, or other associated treatments such as radiation therapy for intracranial tumors. Based on current evidence, experts cannot conclude that GH therapy is responsible for these occurrences. The risk to GH, CRI, or Turner syndrome patients, if any, remains to be established.

Other adverse reactions that have been reported in GH-treated patients include the following: 1) Metabolic: Infrequent, mild, and transient peripheral edema, 2) Musculoskeletal: Arthralgias, rare cartilaginous syndrome, 3) Skin: Rare increased growth of pre-existing acne; patients should be monitored carefully for malignant transformation, 4) Endocrine: Rare gynecomastia, Rare pancreatitis.

OVERDOSAGE

The recommended dosage for GH is up to 0.30 mg/kg (approximately 0.90 IU/kg) of body weight weekly. The recommended dosage for CRI is up to 0.30 mg/kg (approximately 1.05 IU/kg) of body weight weekly. The recommended dosage for Turner syndrome is up to 0.675 mg/kg (approximately 1.25 IU/kg) of body weight weekly. Long-term overdosage could result in signs and symptoms of gigantism and/or acromegaly consistent with the known effects of excess human growth hormone.

NUTROPIN AQ®
(somatropin (hGH origin) injection)

Manufactured by:
Genentech, Inc.
440 Page Mill Boulevard
South San Francisco, CA 94080-4990

G71130-RO
(S43109-R1 Revised March, 1997)
©1997 Genentech, Inc.
There is one company focused on the entire spectrum of pharmaceutical and nutritional needs of the renal patient, with micronutritional for use in the management of anemia, bone metabolism, malnutrition, and vitamin deficiency. R&D Laboratories.

Our unique formulations and superior support help you provide the best care. Choose the micronutritional partner trusted by renal professionals. Choose R&D.

For samples or more information, contact 800-338-9066, info@mdlabs.com or www.mdlabs.com
American Society of Nephrology

1998 Renal Week • October 23-31, 1998

ASN Postgraduate Education Courses
(eight concurrent 2-day POE courses)
PENNNSYLVANIA CONVENTION CENTER • PHILADELPHIA, PA

THE PRINCIPLES AND PRACTICE OF HEMODIALYSIS:
REVIEWS, UPDATES AND DEMONSTRATIONS
Course Chair:
Steve J. Schwab
Durham, NC

EPIEMIOLOGY: THE PRINCIPLES AND APPLICATION TO
CLINICAL NEPHROLOGY
Course Chair:
Andrew S. Levey
Boston, MA

INTENSIVE CARE NEPHROLOGY: INTENSIVE REVIEW AND
CASE DISCUSSIONS
(co-sponsored by the American College
of Chest Physicians)
Course Chair:
Paul M. Palevsky
Pittsburgh, PA

INTERVENTIONAL NEPHROLOGY: EXPANDING OUR
PROCEDURAL DOMAIN
Course Chair:
Gerald A. Beathard
Austin, TX

INTRODUCTION TO MOLECULAR BIOLOGY:
LECTURES AND CLINICALLY RELEVANT WORKSHOPS
Course Chair:
Steven C. Hebert
Nashville, TN

PRACTICAL COMPUTING FOR NEPHROLOGISTS:
MAXIMIZING COMPUTER TECHNIQUES IN EDUCATION &
PRACTICE
Course Chairs:
Jesse M. Goldman
Philadelphia, PA
Jerry Yee
Detroit, MI

RENAL TRANSPLANTATION: FROM BENCH TO BEDSIDE
(co-sponsored by the American Society of Transplant Physicians)
Course Chairs:
Mohamed H. Sayegh
Boston, MA
Laurence A. Turka
Philadelphia, PA

BASIC RENAL PATHOLOGY: FROM BEDSIDE TO BENCH
(co-sponsored by the Renal Pathology Society)
Course Chair:
Agnes B. Fogo
Nashville, TN

Join the ASN for this premier week in nephrology.
For more information, please contact the American Society of Nephrology at (202) 857-1190,
fax number (202) 223-4579, E-mail address asn@dc.sba.com, or visit the ASN web site at www.asn-online.com.
THE AMERICAN SOCIETY OF NEPHROLOGY
1200 19th Street, N.W., Suite 300, Washington, DC 20036-2422 • 202/857-1190

Application for Associate Membership

Associate Members must be fellows or postgraduate trainees in nephrology or a related discipline, and reside in North or Central America.

LAST NAME

FIRST NAME

MIDDLE INITIAL(S)

Preferred Mailing Address

City

State/Province

ZIP/Postal Code

Country

Business Address (If Not Listed Above)

City

State/Province

ZIP/Postal Code

Country

Business Telephone

Business Fax

E-Mail Address

Date of Birth

Sex

Country of Citizenship

If you reside in the United States, but are not a U.S. citizen, please provide visa status:

Dates of Fellowship (Month and Year) Beginning Ending

Location of Fellowship (List all department affiliations)

Primary Professional Interest (e.g., adult nephrology, pediatric nephrology, pathology, urology, physiology, etc.)

Primary Institutional Affiliation (e.g., medical school-faculty/clinical dept., medical school-faculty/research dept., hospital-staff/clinical staff, private practice, armed forces or other federal services, etc.)

Please indicate the amount of time spent on the following activities. Your total should amount to 100 percent.

Clinical Research Teaching Administration Other

List other societies to which you belong.

For office use only:

ID#: Date entered: Check#: Check name:
Professional Education and Training

Institutional Name/Address

Degree

Dates

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

Publications (if any)

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

Provide names and addresses of three persons from whom letters of reference may be requested if needed.

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

I certify that the applicant is in training and therefore entitled to Associate Membership.

DIRECTOR'S NAME (PRINT)  DIRECTOR'S SIGNATURE

Please return your completed application with the first year's dues (see below) payable to the ASN in U.S. funds.

$35 - ASSOCIATE MEMBERSHIP

☐ Check (Payable in U.S. dollars)

If you would like to pay by VISA or MasterCard, please list the cardholder's name, number and expiration date below:

☐ VISA   ☐ MasterCard

Cardholder's Name (please print or type)  Signature

Card Number  Expiration Date

Mail completed form and $35 payment to:  American Society of Nephrology
  1200 19th Street, NW, Suite 300
  Washington, DC 20036-2422
In combination therapy

Roche brings the first humanized monoclonal antibody to renal transplantation.
New ZENAPAX® (Daclizumab), the first humanized IL-2R-specific monoclonal antibody, prevents acute renal allograft rejection as part of an immunosuppressive regimen.

- Binds with high affinity to the Tac subunit which is expressed on activated but not resting lymphocytes.
- A unique, bioengineered monoclonal antibody therapy, 90% human IgG sequences and 10% murine sequences, that mirrors human IgG.
- Inhibits IL-2-mediated activation and proliferation of T cells, a critical pathway in the cellular immune response involved in allograft rejection.

**WARNING:** Only physicians experienced in immunosuppressive therapy and management of organ transplant patients should prescribe ZENAPAX® (Daclizumab). The physician responsible for ZENAPAX administration should have complete information requisite for the follow-up of the patient. Patients receiving the drug should be managed in facilities equipped and staffed with adequate laboratory and supportive medical resources.

Patients on immunosuppressive therapy are at increased risk for developing lymphoproliferative disorders and opportunistic infections and should be monitored accordingly.

ZENAPAX is contraindicated in patients with known hypersensitivity to Daclizumab or to any components of this product. Anaphylactoid reactions have not been observed following ZENAPAX administration, but can occur following the administration of proteins.

Please see brief summary of product information for ZENAPAX and for CellCept® (mycophenolate mofetil), which include contraindications, warnings, precautions and adverse events, on back pages of this advertisement.

*Data from two randomized, double-blind, multicenter trials that compared a dose of 1.0 mg/kg of ZENAPAX with placebo when each was administered as part of an immunosuppressive regimen with triple therapy (cyclosporine + corticosteroids + AZA) or double therapy (cyclosporine + corticosteroids).
New ZENAPAX
Increases efficacy without an increase in serious side effects.

- Significantly reduces acute renal allograft rejection episodes when added to triple and double immunosuppressive protocols. *
- Associated with significantly better patient survival at 1 year in the double-therapy regimen. No significant difference in patient survival when added to a triple-therapy regimen.
- A retrospective analysis of the combined endpoint of patient survival, graft survival and acute rejection in triple- and double-therapy regimens at 1 year suggests a better outcome for patients receiving ZENAPAX as part of their immunosuppressive regimen.
- No increases in lymphomas or overall incidence of infectious episodes were observed.
- The most frequently reported adverse events were GI disorders (e.g., constipation, nausea, diarrhea, vomiting), which were reported with equal frequency in the ZENAPAX group (67% [226/336]) and placebo group (68% [199/293]). The overall incidence of infectious episodes was not higher in patients treated with ZENAPAX compared with patients receiving placebo. However, cellulitis and wound infections occurred in 8.4% (24/286) of patients treated with ZENAPAX and 4.1% (11/268) receiving placebo.
- Well tolerated with CellCept® (mycophenolate mofetil), cyclosporine and corticosteroids.

**New Zenapax**
Daclizumab
Sterile Concentrate for Injection

Immunosuppression with a human touch.
Geriatric Use: Clinical studies of ZENAPAX did not include sufficient numbers of subjects age 65 and older to determine whether they respond differently from younger subjects. Caution must be used in giving immunosuppressive drugs to elderly patients.

ADVERSE REACTIONS: The safety of ZENAPAX was determined in four clinical studies, three of which were randomized controlled clinical trials, in 629 patients receiving renal allografts of whom 336 received ZENAPAX and 293 received placebo. All patients received concomitant cyclosporins and corticosteroids.

ZENAPAX did not appear to affect the pattern, frequency or severity of known major toxicities associated with the use of immunosuppressive drugs. Adverse events were reported by 95% of the patients in the placebo-treated group and 96% of the patients in the ZENAPAX-treated group. The proportion of patients prematurely withdrawn from the combined studies because of adverse events was 8.5% in the placebo-treated group and 8.6% in the ZENAPAX-treated group.

ZENAPAX did not increase the number of serious adverse events observed compared with placebo. The most frequently reported adverse events were gastrointestinal disorders, infection, vomiting and respiratory tract disorders.

The incidence and types of adverse events were similar in both placebo-treated and ZENAPAX-treated patients. The following adverse events occurred in <5% of ZENAPAX-treated patients. These events included: Gastrointestinal System: constipation, nausea, diarrhea, vomiting, abdominal pain, pyrosis, dyspepsia, abdominal distention, epigastric pain not food-related; Metabolic and Nutritional: edema extremities, edema; Central and Peripheral Nervous System: tremor, headache, dizziness; Urinary System: oliguria, dysuria, renal tubular necrosis; Body as a Whole — General: post-traumatic pain, chest pain, fever, pain, fever, fatigue; Autonomic Nervous System: hypertension, hypotension, aggravated hypertension; Respiratory System: dyspnea, pulmonary edema, coughing; Skin and Appendages: impaired wound healing without infection; Onset; Musculoskeletal System: musculoskeletal pain, back pain; Heart Rate and Rhythm: tachycardia; Vascular Extravasation: thrombosis; Platelet, Bleeding and Clotting Disorders: bleeding; Hemic and Lympathic: lymphocele.

The following adverse events occurred in <5% and 2% of ZENAPAX-treated patients. These included: Gastrointestinal System: fatigue, gastritis, hemorrhoids; Metabolic and Nutritional: fluid overload, diabetes mellitus, dehydration; Urinary System: renal damage, hypertension, urinary tract bleeding, urinary tract disorder, renal insufficiency; Body as a Whole — General: shivering, generalized weakness; Central and Peripheral Nervous System: urinary retention, leg cramps, prickly sensation; Respiratory System: atelectasis, congestion, pharyngitis, rhinitis, hypoa, rales, abnormal breath sounds, pleural effusion; Skin and Appendages: pruritus, hirsutism, rash, night sweats, increased sweating; Psychiatric System: depression, anxiety; Endocrine System: arthropathy; Myalgia; Vision: vision blurred; Application Site: application site reaction.

Incidence of Malignancies: One year after treatment, the incidence of malignancies was 2% in the placebo group compared with 1.5% in the ZENAPAX group. Addition of ZENAPAX did not increase the number of post-transplant lymphomas, which occurred with a frequency of <1% in both placebo-treated and ZENAPAX-treated groups.

Hypersensitivity: A hematology, or hematology, and clinical laboratory test results were seen between placebo-treated and ZENAPAX-treated groups with the exception of fasting blood glucose. Fasting blood glucose was measured in a small number of patients. Patients treated with ZENAPAX and treated 3% (28 of 88 patients) of ZENAPAX-treated patients had high fasting blood glucose values. Most of these high values occurred either on the first day post-transplant when patients received high doses of corticosteroids or in patients for whom there was a delay in the post-transplant period.

Incidence of Infectious Episodes: The overall incidence of infectious episodes, including viral infections, fungal infections, bacteremia and septicemia, and pneumonia, was not higher in ZENAPAX-treated patients than in placebo-treated patients. The types of infections reported were similar in both the ZENAPAX-treated and the placebo-treated groups. Cytomegalovirus infection was reported in 15% of the patients in the placebo group and 13% of patients in the ZENAPAX group. Patients in the ZENAPAX group were significantly infected and wound infections, which occurred in 4.1% of placebo-treated and 8.4% of ZENAPAX-treated patients. At 1 year post-transplant, 7 placebo patients and only 1 ZENAPAX-treated patient had died of infectious complications.

OVERDOSAGE: There have been no reports of overdoses with ZENAPAX. A maximum tolerated dose has not been determined in patients. A dose of 1.5 mg/kg has been administered to two marrow transplant recipients without any associated adverse events.

CAUTION: (Federal (USA) law prohibits dispensing without a prescription.)
**CellCept® (mycophenolate mofetil capsules)**

**CONTRAINDICATIONS:**
Mycophenolate mofetil is contraindicated in the following situations:

1. **Pregnancy:** Mycophenolate mofetil has been shown to cause fetal harm when administered to pregnant women. Use during pregnancy only if the potential benefit justifies the potential risk to the fetus. Treatment during pregnancy should be discontinued as soon as possible after diagnosis of pregnancy.

2. **Lactation:** Mycophenolate mofetil should not be used during breastfeeding because it can be excreted in breast milk. If the drug is used, breastfeeding should be discontinued.

3. **Children:** The safety and effectiveness of mycophenolate mofetil in children have not been established. Use only in children for whom the potential benefits outweigh the potential risks.

4. **Hypersensitivity:** Mycophenolate mofetil should not be used in patients who have shown a hypersensitivity reaction to it.

5. **Other:** Mycophenolate mofetil should not be used in patients who have a known or suspected allergy to mycophenolate mofetil or any of its components.

**WARNINGS:**
- Mycophenolate mofetil can cause significant gastrointestinal adverse effects, including nausea, vomiting, diarrhea, and abdominal pain.
- Mycophenolate mofetil can cause hematologic adverse effects, including neutropenia, thrombocytopenia, and anemia.
- Mycophenolate mofetil can cause renal adverse effects, including renal failure and hyperkalemia.
- Mycophenolate mofetil can cause hepatic adverse effects, including liver enzyme elevations and hepatitis.
- Mycophenolate mofetil can cause neurologic adverse effects, including headache, dizziness, and seizures.
- Mycophenolate mofetil can cause allergic reactions, including anaphylaxis, Stevens-Johnson syndrome, and toxic epidermal necrolysis.
- Mycophenolate mofetil can cause other adverse effects, including hypertension, hyperkalemia, and hyperuricemia.

**PRECAUTIONS:**
- Mycophenolate mofetil should be used with caution in patients with a history of gastrointestinal intolerance.
- Mycophenolate mofetil should be used with caution in patients with a history of hematologic intolerance.
- Mycophenolate mofetil should be used with caution in patients with a history of renal intolerance.
- Mycophenolate mofetil should be used with caution in patients with a history of hepatic intolerance.
- Mycophenolate mofetil should be used with caution in patients with a history of neurologic intolerance.
- Mycophenolate mofetil should be used with caution in patients with a history of allergic reactions.
- Mycophenolate mofetil should be used with caution in patients with a history of other adverse effects.

**ADVERSE REACTIONS:**
- Mycophenolate mofetil can cause anemia, neutropenia, thrombocytopenia, and hepatic impairment.
- Mycophenolate mofetil can cause renal impairment, including renal failure.
- Mycophenolate mofetil can cause gastrointestinal adverse effects, including nausea, vomiting, diarrhea, and abdominal pain.
- Mycophenolate mofetil can cause hematologic adverse effects, including neutropenia, thrombocytopenia, and anemia.
- Mycophenolate mofetil can cause renal adverse effects, including renal failure and hyperkalemia.
- Mycophenolate mofetil can cause hepatic adverse effects, including liver enzyme elevations and hepatitis.
- Mycophenolate mofetil can cause neurologic adverse effects, including headache, dizziness, and seizures.
- Mycophenolate mofetil can cause allergic reactions, including anaphylaxis, Stevens-Johnson syndrome, and toxic epidermal necrolysis.
- Mycophenolate mofetil can cause other adverse effects, including hypertension, hyperkalemia, and hyperuricemia.

**PHARMACOKINETICS:**
- Mycophenolate mofetil is absorbed rapidly and reaches peak plasma concentrations within 1 to 2 hours after oral administration.
- Mycophenolic acid, the active metabolite of mycophenolate mofetil, is eliminated primarily by renal excretion.
- Mycophenolic acid is highly protein bound and is primarily excreted in the urine.
- Mycophenolic acid concentrations are increased in the presence of renal impairment, as are ganciclovir concentrations.
- Mycophenolic acid concentrations are decreased in the presence of ganciclovir, therefore, treatment with the two drugs should be avoided.

**DRUG INTERACTIONS:**
- Mycophenolate mofetil can interact with other immunosuppressant drugs, including cyclosporine and tacrolimus.
- Mycophenolate mofetil can interact with other medications, including antibiotics and antifungal agents.
- Mycophenolate mofetil can interact with other drugs, including antiviral agents and antineoplastic agents.

**DOSE AND ADMINISTRATION:**
- Mycophenolate mofetil should be administered orally twice daily, with or without food.
- The recommended dosage is 1,000 mg twice daily, divided into two oral doses.
- The total daily dose should be adjusted based on the patient's body weight and renal function.
- Mycophenolate mofetil should be administered at a dose of 2.5 mg/kg/day, divided into two oral doses.
- Mycophenolate mofetil should be administered at a dose of 1 mg/kg/day, divided into two oral doses.

**HOW SUPPLIED:**
- Mycophenolate mofetil capsules are available in 250 mg, 500 mg, and 750 mg strengths.
- Mycophenolate mofetil tablets are available in 500 mg, 750 mg, and 1000 mg strengths.

**CLINICAL PHARMACOLOGY:**
- Mycophenolate mofetil is a prodrug that is converted to mycophenolic acid, which inhibits inosine monophosphate dehydrogenase, an enzyme involved in the production of guanosine nucleotides.
- Mycophenolate mofetil concentrations can be affected by renal function, and dosing adjustments may be necessary.
- Mycophenolic acid concentrations can be affected by other drugs, including cyclosporine and tacrolimus.

**ADVERSE REACTIONS:**
- Mycophenolate mofetil can cause a range of adverse reactions, including gastrointestinal, hematologic, renal, hepatic, and neurologic reactions.
- Mycophenolate mofetil can cause allergic reactions, including anaphylaxis, Stevens-Johnson syndrome, and toxic epidermal necrolysis.
- Mycophenolate mofetil can cause other adverse reactions, including hypertension, hyperkalemia, and hyperuricemia.

**DOSE OPTIMIZATION:**
- Dosing should be adjusted based on the patient's body weight, renal function, and response to therapy.
- Dosing should be increased or decreased as necessary to achieve optimal levels of mycophenolic acid or mycophenolate mofetil.

**DRUG INTERACTIONS:**
- Mycophenolate mofetil can interact with other immunosuppressant drugs, including cyclosporine and tacrolimus.
- Mycophenolate mofetil can interact with other medications, including antibiotics and antifungal agents.
- Mycophenolate mofetil can interact with other drugs, including antiviral agents and antineoplastic agents.

**DOSE AND ADMINISTRATION:**
- Mycophenolate mofetil should be administered orally twice daily, with or without food.
- The recommended dosage is 1,000 mg twice daily, divided into two oral doses.
- The total daily dose should be adjusted based on the patient's body weight and renal function.
- Mycophenolate mofetil should be administered at a dose of 2.5 mg/kg/day, divided into two oral doses.
- Mycophenolate mofetil should be administered at a dose of 1 mg/kg/day, divided into two oral doses.

**HOW SUPPLIED:**
- Mycophenolate mofetil capsules are available in 250 mg, 500 mg, and 750 mg strengths.
- Mycophenolate mofetil tablets are available in 500 mg, 750 mg, and 1000 mg strengths.

**CLINICAL PHARMACOLOGY:**
- Mycophenolate mofetil is a prodrug that is converted to mycophenolic acid, which inhibits inosine monophosphate dehydrogenase, an enzyme involved in the production of guanosine nucleotides.
- Mycophenolate mofetil concentrations can be affected by renal function, and dosing adjustments may be necessary.
- Mycophenolic acid concentrations can be affected by other drugs, including cyclosporine and tacrolimus.

**ADVERSE REACTIONS:**
- Mycophenolate mofetil can cause a range of adverse reactions, including gastrointestinal, hematologic, renal, hepatic, and neurologic reactions.
- Mycophenolate mofetil can cause allergic reactions, including anaphylaxis, Stevens-Johnson syndrome, and toxic epidermal necrolysis.
- Mycophenolate mofetil can cause other adverse reactions, including hypertension, hyperkalemia, and hyperuricemia.

**DOSE OPTIMIZATION:**
- Dosing should be adjusted based on the patient's body weight, renal function, and response to therapy.
- Dosing should be increased or decreased as necessary to achieve optimal levels of mycophenolic acid or mycophenolate mofetil.

**DRUG INTERACTIONS:**
- Mycophenolate mofetil can interact with other immunosuppressant drugs, including cyclosporine and tacrolimus.
- Mycophenolate mofetil can interact with other medications, including antibiotics and antifungal agents.
- Mycophenolate mofetil can interact with other drugs, including antiviral agents and antineoplastic agents.
### Adverse Events in Prevention of Renal Allograft Rejection

<table>
<thead>
<tr>
<th>Event</th>
<th>CellCept</th>
<th>CellCept</th>
<th>Azathioprine 1-2 mg/kg/day or 100-150 mg/day</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>USA Study Combined with Europe/Canada/Australia Study</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Body as a Whole</strong></td>
<td>2 g/day</td>
<td>3 g/day</td>
<td>2 g/day</td>
</tr>
<tr>
<td>Pain</td>
<td>33.0%</td>
<td>31.2%</td>
<td>32.2%</td>
</tr>
<tr>
<td>Abdominal pain</td>
<td>24.7%</td>
<td>27.0%</td>
<td>16.4%</td>
</tr>
<tr>
<td>Fever</td>
<td>21.4%</td>
<td>23.3%</td>
<td>23.3%</td>
</tr>
<tr>
<td>Headache</td>
<td>21.1%</td>
<td>16.1%</td>
<td>21.2%</td>
</tr>
<tr>
<td>Infection</td>
<td>18.2%</td>
<td>20.9%</td>
<td>19.9%</td>
</tr>
<tr>
<td>Seizures</td>
<td>17.6%</td>
<td>19.7%</td>
<td>15.6%</td>
</tr>
<tr>
<td>Asthenia</td>
<td>13.7%</td>
<td>16.1%</td>
<td>19.9%</td>
</tr>
<tr>
<td>Chills</td>
<td>13.4%</td>
<td>13.3%</td>
<td>14.7%</td>
</tr>
<tr>
<td>Back pain</td>
<td>11.6%</td>
<td>12.1%</td>
<td>14.1%</td>
</tr>
<tr>
<td><strong>Hematologic and Lymphatic</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anemia</td>
<td>25.6%</td>
<td>25.3%</td>
<td>23.6%</td>
</tr>
<tr>
<td>Leukopenia</td>
<td>23.2%</td>
<td>24.5%</td>
<td>24.8%</td>
</tr>
<tr>
<td>Thrombocytopenia</td>
<td>10.1%</td>
<td>8.2%</td>
<td>13.2%</td>
</tr>
<tr>
<td>Hypertrophic anemia</td>
<td>7.4%</td>
<td>11.5%</td>
<td>9.2%</td>
</tr>
<tr>
<td>Leukocytosis</td>
<td>7.1%</td>
<td>10.9%</td>
<td>7.4%</td>
</tr>
<tr>
<td><strong>Urinary</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Urinary tract infection</td>
<td>37.2%</td>
<td>37.0%</td>
<td>33.7%</td>
</tr>
<tr>
<td>Hematuria</td>
<td>14.0%</td>
<td>12.1%</td>
<td>11.3%</td>
</tr>
<tr>
<td>Kidney tubular necrosis</td>
<td>8.3%</td>
<td>10.0%</td>
<td>5.8%</td>
</tr>
<tr>
<td><strong>Cardiovascular</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hypertension</td>
<td>32.4%</td>
<td>28.2%</td>
<td>32.2%</td>
</tr>
<tr>
<td><strong>Metabolic and Nutritional</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Periph. edema</td>
<td>28.6%</td>
<td>27.0%</td>
<td>28.2%</td>
</tr>
<tr>
<td>Hyperchloremia</td>
<td>12.8%</td>
<td>8.5%</td>
<td>11.3%</td>
</tr>
<tr>
<td>Hyperphosphatemia</td>
<td>12.5%</td>
<td>15.8%</td>
<td>11.7%</td>
</tr>
<tr>
<td>Edema</td>
<td>12.2%</td>
<td>11.8%</td>
<td>13.5%</td>
</tr>
<tr>
<td>Hypokalemia</td>
<td>10.1%</td>
<td>10.0%</td>
<td>8.3%</td>
</tr>
<tr>
<td>Hyperkalemia</td>
<td>8.9%</td>
<td>10.3%</td>
<td>16.9%</td>
</tr>
<tr>
<td>Hyperglycemia</td>
<td>8.6%</td>
<td>12.4%</td>
<td>15.0%</td>
</tr>
<tr>
<td><strong>Digestive</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diarrhea</td>
<td>31.0%</td>
<td>36.1%</td>
<td>20.9%</td>
</tr>
<tr>
<td>Constipation</td>
<td>22.9%</td>
<td>18.5%</td>
<td>22.4%</td>
</tr>
<tr>
<td>Nausea</td>
<td>19.9%</td>
<td>23.6%</td>
<td>24.5%</td>
</tr>
<tr>
<td>Dyspepsis</td>
<td>17.6%</td>
<td>13.6%</td>
<td>13.8%</td>
</tr>
<tr>
<td>Vomiting</td>
<td>12.5%</td>
<td>13.6%</td>
<td>9.2%</td>
</tr>
<tr>
<td>Nausea and vomiting</td>
<td>10.4%</td>
<td>9.7%</td>
<td>10.7%</td>
</tr>
<tr>
<td>Oral moniliasis</td>
<td>10.1%</td>
<td>12.1%</td>
<td>11.3%</td>
</tr>
<tr>
<td><strong>Respiratory</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Infection</td>
<td>22.0%</td>
<td>23.9%</td>
<td>19.6%</td>
</tr>
<tr>
<td>Dysnea</td>
<td>15.5%</td>
<td>17.3%</td>
<td>16.6%</td>
</tr>
<tr>
<td>Cough increased</td>
<td>15.5%</td>
<td>13.3%</td>
<td>15.0%</td>
</tr>
<tr>
<td>Pharyngitis</td>
<td>9.5%</td>
<td>11.2%</td>
<td>8.0%</td>
</tr>
<tr>
<td><strong>Skin and Appendages</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acne</td>
<td>10.1%</td>
<td>9.7%</td>
<td>6.4%</td>
</tr>
<tr>
<td>Rash</td>
<td>7.7%</td>
<td>6.4%</td>
<td>10.4%</td>
</tr>
<tr>
<td><strong>Nervous System</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tension</td>
<td>11.0%</td>
<td>11.8%</td>
<td>12.3%</td>
</tr>
<tr>
<td>Insomnia</td>
<td>8.9%</td>
<td>11.8%</td>
<td>10.4%</td>
</tr>
<tr>
<td>Dizziness</td>
<td>5.7%</td>
<td>11.2%</td>
<td>11.0%</td>
</tr>
<tr>
<td><strong>Europe Study</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CellCept 2 g/day</td>
<td>2 g/day</td>
<td>3 g/day</td>
<td>Placebo</td>
</tr>
<tr>
<td><strong>Body as a Whole</strong></td>
<td>3 g/day</td>
<td>3 g/day</td>
<td></td>
</tr>
<tr>
<td>Seizures</td>
<td>21.8%</td>
<td>17.5%</td>
<td>13.9%</td>
</tr>
<tr>
<td>Infection</td>
<td>12.7%</td>
<td>15.6%</td>
<td>13.3%</td>
</tr>
<tr>
<td>Abdominal pain</td>
<td>12.1%</td>
<td>11.9%</td>
<td>11.4%</td>
</tr>
<tr>
<td><strong>Hematologic and Lymphatic</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leukopenia</td>
<td>11.5%</td>
<td>16.3%</td>
<td>4.2%</td>
</tr>
<tr>
<td><strong>Urinary</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Urinary tract infection</td>
<td>45.5%</td>
<td>44.4%</td>
<td>37.3%</td>
</tr>
<tr>
<td>Urinary tract disorder</td>
<td>6.7%</td>
<td>10.6%</td>
<td>4.2%</td>
</tr>
<tr>
<td><strong>Cardiovascular</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hypertension</td>
<td>17.6%</td>
<td>16.9%</td>
<td>19.3%</td>
</tr>
<tr>
<td><strong>Digestive</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diarrhea</td>
<td>16.4%</td>
<td>18.8%</td>
<td>13.9%</td>
</tr>
<tr>
<td><strong>Respiratory</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Infection</td>
<td>15.8%</td>
<td>13.1%</td>
<td>9.0%</td>
</tr>
<tr>
<td>Bronchitis</td>
<td>8.5%</td>
<td>11.9%</td>
<td>8.4%</td>
</tr>
<tr>
<td>Pneumonia</td>
<td>3.6%</td>
<td>10.8%</td>
<td>10.8%</td>
</tr>
</tbody>
</table>

The above data demonstrate that in three controlled trials for prevention of rejection, patients receiving 2 g per day of CellCept had an overall better safety profile than did patients receiving 3 g per day of CellCept. Seizures, which was generally CMV versus, was slightly more common in patients treated with CellCept, with an incidence of 15-22%, compared to 16% in patients receiving azathioprine and 14% in patients receiving placebo. In the digestive system, diarrhea was most clearly increased in patients receiving CellCept, with an incidence of up to 36%, compared to 21% for patients receiving azathioprine and 14% for patients receiving placebo.

The occurrence of malignancies among the 1,483 patients enrolled in controlled trials for the prevention of rejection who were followed for 21 years was similar to the incidence reported in the literature for renal allograft recipients. There was a slight increase in the incidence of lymphoproliferative disease in the CellCept treatment group compared to the placebo and azathioprine groups. (See WARNINGS.) The following table summarizes the incidence of malignancies observed in the prevention of rejection trials.
The Journal of the American Society of Nephrology

Frequency: One volume per year, beginning in January.

Correspondence concerning business matters should be addressed to: Customer Service, Subscriptions, Williams & Wilkins, 351 West Camden Street, Baltimore, MD 21201-2436. Telephone: (800) 638-6423 from anywhere in the United States and Canada. From other countries, call (410) 428-8555. Fax: (410) 528-8596.

For information on American Society of Nephrology membership, contact: Neysa Matthews at (202) 857-1190.

Correspondence regarding editorial matters should be addressed to: C. Craig Tisher, M.D., J. Am. Soc. Nephrol., Division of Nephrology, Box 100224, 1600 SW Archer Road, University of Florida, Gainesville, Florida 32610.

Instructions to Authors appears in each issue.

Annual subscription rates: U.S.: Personal $255.00; Institutional $359.00; In-training $102.00; Single copy $32.00. Other countries, surface delivery: Personal $330.00; Institutional $434.00; In-training $172.00; Single copy $38.00. Special in-training rate is available to residents, interns, and students for a period of three years. In requesting this rate, please indicate training status and name of institution. This special in-training rate can be extended to all participants in four-year training programs, provided that sufficient proof of training status is supplied. Institutional (multiple reader) rate applies to libraries, schools, hospitals, clinics, and group practices, and federal, commercial, and private institutions and organizations. For Japanese rates, please contact: Igaku-Shoin MYW Ltd., 3-23-14 Hongo, BunkyoKu, Tokyo 113, JAPAN. Phone: (03) 5689-5400 or 5401. Fax: (03) 5689-5402. PRICES ARE SUBJECT TO CHANGE. The GST number for Canadian subscribers is 123394371. Country of origin: USA.

New subscriptions received before May 1st of each year will begin with the first issue of the year. Subscriptions received between May 1st and October 31st will start with the mid-year issue. Subscriptions received after October 31st will start with the first issue of the following year. Subscriptions may start with any current year’s issue upon request. Subscriptions should be renewed promptly to avoid a break in journal delivery. The publisher cannot guarantee to supply back issues on late renewals.

Change of address: The publisher must be notified 60 days in advance. Journals undeliverable because of incorrect address will be destroyed. Duplicate copies may be obtained, if available, from the Publisher at the regular price of a single issue. Send address changes to: The American Society of Nephrology, 351 West Camden Street, Baltimore, MD 21201-2436.

Reprints of individual articles are available only from the authors. If authors need information on their reprint orders, please call (410) 528-4118. Reprints (nonauthor) in large quantities, for commercial or academic use, may be purchased from the Publisher. For information and prices, call (410) 528-4292.

Microfilm and microfiche: Prices are available upon request. Microfilm editions may be ordered from Williams & Wilkins. All promotional literature must be approved in advance.

Volume index appears in the December issue. Indexing/abstracting services: The Journal is currently included by the following services in print and/or electronic format: Index Medicus, Current Contents (Clinical Medicine), and BIOSIS.

Disclaimer: The statements and options contained in the articles of The Journal of the American Society of Nephrology are solely those of the individual authors and contributors and not of the American Society of Nephrology or Williams & Wilkins. The appearance of advertisements in the Journal is not a warranty, endorsement, or approval of the products or services advertised or of their effectiveness, quality, or safety. The American Society of Nephrology and the Publisher disclaim responsibility for any injury to persons or property resulting from any ideas or products referred to in the articles or advertisements.

Copyright information: THE JOURNAL OF THE AMERICAN SOCIETY OF NEPHROLOGY is copyrighted by the American Society of Nephrology. No portion(s) of the work(s) may be reproduced without written consent from the Publisher. Permission to reproduce copies of articles for non-commercial use may be obtained from the Copyright Clearance Center, 27 Congress Street, Salem, MA 01970, with a fee of $3.00 per copy.
DEXFERRUM®
(IRON DEXTRAN INJECTION, USP)

For effective intravenous treatment of iron deficiency anemia, it positively delivers.

Decreases total iron binding capacity.
Increases transferrin saturation.
For your patients with documented iron deficiency in whom oral administration is unsatisfactory or impossible, depend on DEXFERRUM for quality intravenous treatment. Here’s why:

- A recent study demonstrated that rapid iron utilization to replete iron stores and produce new hemoglobin takes place soon after DEXFERRUM administration.¹
- The study noted that DEXFERRUM significantly decreases total iron binding capacity and increases transferrin saturation.

<table>
<thead>
<tr>
<th></th>
<th>Pre-study</th>
<th>Week 1</th>
<th>Day 30</th>
<th>Effect of Iron Dextran (probability value)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum TIBC (µg/dL)</td>
<td>221.2 ± 40.9</td>
<td>201.3 ± 51.6</td>
<td>183.2 ± 48.6</td>
<td>0.0061</td>
</tr>
<tr>
<td>Transferrin saturation (%)</td>
<td>14.3 ± 2.8</td>
<td>32.3 ± 13.0</td>
<td>22.9 ± 3.3</td>
<td>&lt;0.0001</td>
</tr>
</tbody>
</table>

Study was conducted to determine the rate and extent of iron utilization after administration of intravenous iron dextran and to compare the efficacy of iron dextran of different molecular weights. Twenty patients were randomized to receive either a 500 mg dose of DEXFERRUM (267,000 daltons) or INFeD® (96,000 daltons) administered in five sequential 100 mg doses. Indices of iron status were examined before treatment and at weekly intervals up to four weeks later.

- The safety and efficacy of DEXFERRUM have been confirmed through clinical trials in end-stage renal disease (ESRD) patients on epoetin alfa.²

For more information, or to order DEXFERRUM, call us toll-free at 1-800-645-1706.

Call our Reimbursement Hotline at 1-800-282-7712 regarding DEXFERRUM reimbursement issues or our Patient Assistance Program. In the Washington, D.C., metropolitan area call 1-202-942-2453.

**Warning**

The parenteral use of complexes of iron and carbohydrates has resulted in anaphylactic-type reactions. Deaths associated with such administration have been reported. Therefore, DEXFERRUM should be used only in those patients in whom the indications have been clearly established and laboratory investigations confirm an iron-deficient state not amenable to oral iron therapy.

---

2. Data on file at American Regent Laboratories, Inc.

Please see brief summary of the prescribing information on the following page.
WARNINGS

The parenteral use of complexed iron and carbohydrates has resulted in anaphylactoid-type reactions. Deaths and fatalities have been reported. Therefore, Dexferrum should be used only in those patients in whom the reactions have been clearly established and laboratory investigations confirm an iron dependent state not amenable to oral therapy.

DESCRIPTION: Dexferrum® (Iron Dextran Injection, USP) is a dark brown, slightly viscous sterile liquid complex of ferric hydroxide and a low molecular weight dextran derivative for intravenous use. Each mL contains 50 mg elemental iron as an iron dextran complex. Sodium chloride may have been added for tonicity. Water for injection q.s. pH adjusted to 5.0 - 5.5 with hydrochloric acid and, if necessary, sodium hydroxide. Sterile, nonpyrogenic.

Therapeutic Class: Hematologic.

INDICATIONS AND USAGE: Dexferrum is indicated for treatment of patients with documented iron deficiency in whom oral administration is unfeasible or impossible.

CONTRAINDICATIONS: Hypersensitivity to the product. All anemias not associated with iron deficiency.

WARNINGS: See BOXED WARNING.

A risk of cardiogenic shock may attend the intravenous injection of iron-dextran complexes. Such complexes have been found under experimental conditions to produce sequestration when large doses or small doses injected repeatedly at the same site were given to rats, mice, and rabbits, and possibly in humans.

The long interval between the injection of a potential allergen and the appearance of a tumor makes it impossible to measure accurately the risk in man. There have, however, been several reports in the literature describing tumors at the injection site in humans who had previously received intravenous injections of iron-dextran complexes. Large intravenous doses, such as used with total dose infusions (TDI), have been associated with an increased incidence of adverse effects. The adverse effects frequently are delayed (1-2 days) reactions, typified by one or more of the following symptoms: arthritis, backache, chills, diziness, moderate to high fever, headache, malaise, nausea, and vomiting. The onset is usually 24-48 hours after administration and symptoms generally subside within 3-4 days. The strategy of these reactions renews interest. The potential for a delayed reaction must be considered when estimating the risk/benefit of treatment.

The maximum daily dose should not exceed 2 mL, unfractionated iron dextran.

This preparation should be used with extreme care in patients with sickle cell anemia of liver function.

It should not be used during the acute phase of infectious kidney disease.

Adverse reactions encountered following administration of Dexferrum may exacerbate cardiovascular complications in patients with pre-existing cardiovascular disease.

PRECAUTIONS: General: Unfractionated therapy with parenteral iron will cause excess storage of iron with the consequent possibility of exogenous hemosiderosis. Such iron supplementation is particularly apt to occur in patients with hemoglobinopathies and other refractory anemias that might be improperly diagnosed as iron deficiency anemias.

Anaphylactic and other hypersensitivity reactions have been reported following repeated use as well as therapeutic doses of iron dextran injection. Therefore, administration of subsequent test doses during therapy should be considered.

(See DOSAGE AND ADMINISTRATION: Administration.)

Epinephrine should be immediately available in the event of an acute hypersensitivity reaction. ( usual adult dose 0.5 mg. of 1:1000 solution. An additional 0.5 mg. may be used as a second dose.) Patients using beta-blocking agents may not respond to epinephrine and should be pre-informed of the possibility of anaphylactic shock from this agent. Patients with rheumatoid arthritis may have an acute exacerbation of joint pain and swelling following the administration of Dexferrum.

Infection: For Patients: Patients should be advised of the potential adverse reactions associated with the use of Dexferrum.

Dermatologic Test Interactions: Large doses of iron dextran (5 mL. or more) have been reported to give a brown collar to serum from a blood sample drawn 4 hours after administration.

The drug may cause falsely elevated values of serum calcium and markedly decreased values of serum calcium.

Serum iron determinations (especially by colorimetric assays) may not be meaningful for 3 weeks following the administration of iron dextran.

Serum ferritin levels approximately 7 to 9 days after an intravenous dose of Dexferrum and slowly return to baseline after about 3 weeks.

Examination of the bone marrow for iron stores may not be meaningful for prolonged periods following iron dextran therapy because residual iron dextran may remain in the reticuloendothelial cells.

Bone scans with 67Ga-labeled bone seeking agents, in the presence of high serum ferritin levels or following iron dextran infusions, have been reported to show reduction of bony uptake, marked renal activity, and excessive blood pool and soft tissue accumulation.

Carotidography, Multigastroscopy, Impairment Of Fertility: See WARNINGS.

Pregnancy: Teratogenic Effects: Pregnancy Category C: iron dextran has been shown to be teratogenic and embryocidal in mice, rats, rabbits, and monkeys when given in doses of about 3 times the maximum human dose. No consistent adverse fetal effects were observed in mice, rats, rabbits, dogs and monkeys at doses of 50 mg iron/kg or less. Fatal maternal toxicity has been reported in monkeys at a total intravenous dose of 50 mg iron/kg over a 14 day period. Similar effects were observed in mice and rats at the administration of a single dose of 125 mg iron/kg. Fatal abnormalities in rats and dogs were observed at dosis of 250 mg iron/kg and higher. The animals used in these tests were not iron deficient. There are no adequate and well-controlled studies in pregnant women. Dexferrum should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus.

Pediatric Use: Unwarranted use for infants under 4 months of age (See DOSAGE AND ADMINISTRATION).

Adverse Reactions: Severe/Fatal: Anaphylactic reactions have been reported with the use of iron dextran injection; on occasion these reactions have been fatal. Such reactions, which may occur within the first seconds to minutes after injection, can result in hypotension, cardiovascular collapse. (See boxed WARNING and PRECAUTIONS: General, pertaining to immediate availability of epinephrine.)

Cardiovascular: Chest pain, chest tightness, shock, hypertension, hyperpnea, tachycardia, flushing, arrhythmias. (Flushing and hypotension may occur from too rapid injections by the intravenous route.)

Dermatologic: Urticaria, purpura, pruritus, rash.

Gastrointestinal: Abdominal pain, nausea, vomiting, diarrhea.

Hematologic/hematopoietic: Leukocytosis, lymphadenopathy.

Musculoskeletal/tooth tissue: Arthritis, arthralgia. Arthritis or arthralgia may represent reactivation in patients with quiescent rheumatoid arthritis. See PRECAUTIONS: General, myalgia, backache, sterile abscess, brown skin and/or underlying tissue discoloration (staining), cellulitis, swelling, inflammation, local phlebitis or near intravenous injection site.

Neurologic: Convulsions, seizures, syncope, headache, weakness, unresponsiveness, paresthesia, fever, malaise, chills, dizziness, disorientation, numbness.

Respiratory: Respiratory arrest, dyspnea, bronchospasm.

Urologic: Hematuria.

Delayed reactions: Arthritis, backache, chills, diziness, fever, headache, malaise, myalgia, nausea, vomiting. (See WARNINGS.)

Miscellaneous: Febrile episodes, sweating, chills, malaise, altered taste.

DOSAGE AND ADMINISTRATION: Oral iron should be discontinued prior to administration of Dexferrum.

Adult Dosage: Intravenous Administration. FROM RECEIVING THEIR FIRST DEXFERRUM THERAPEUTIC DOSE, ALL PATIENTS SHOULD BE GIVEN AN INTRAVENOUS TEST DOSE OF 0.5 mL. (See PRECAUTIONS: General; THE TEST DOSE SHOULD BE ADMINISTERED AT A GRA VITY RATE NOT LESS THAN 15 ML. Per minute, All abnormal reactions known to occur following Dexferrum administration are usually evident within a few minutes, or sooner, it is recommended that a period of an hour or longer elapse before the remainder of the initial therapeutic dose is given. Individual doses of 0.5 mL or less may be given on a daily basis until the calculated total amount required has been reached. Dexferrum is given undiluted at a slow gravity rate not to exceed 50 mL (1 mg) per minute.

If no adverse reactions are observed, Dexferrum can be given according to the following schedule until the calculated total amount required has been reached. Doses should ordinarily not exceed 0.5 mL (25 mg of iron) for infants under 5 kg (11 lb), 1 mL (50 mg of iron) for children under 10 kg (22 lb), and 2 mL (100 mg of iron) for other patients.

NOTE: Do not use Dexferrum with other medications or add to parenteral nutrition solutions for intravenous infusion.

Parenteral drug products should be inspected visually for particulate matter and discontinue prior to administration, whenever the solution and container permit.

HOW SUPPLIED: Dexferrum® (Iron Dextran Injection, USP) containing 50 mg of elemental iron per mL, is available in 2 mL single dose vials for (intravenous use) in cartons of 10 (NDC 0517-0343-10) and individually packaged (NDC 0517-0343-01).

Store at controlled room temperature 15° - 30°C (59° - 86°F).

CAUTION: Federal law prohibits dispensing without prescription.

This is a brief summary; see product package insert for full prescribing information.
The clinical toxicity of CYTOVENE includes granulocytopenia, anemia and thrombocytopenia. In animal studies ganciclovir was carcinogenic and teratogenic and caused aspermatogenesis.

CYTOVENE should not be administered if the absolute neutrophil count is less than 500 cells/µL or the platelet count is less than 25,000 cells/µL.

Monitoring of renal function during therapy is essential, especially for patients receiving medications that may cause nephrotoxicity. Please refer to the complete product information for dose modifications for patients with renal impairment.

CONVENIENT ORAL DOSAGE.
1000 mg (two 500 mg capsules) tid with food.

The only oral prophylaxis for CMV disease in solid organ transplantation.

TWO CYTOVENE 500 MG CAPSULES
have been shown to be bioequivalent to four 250 mg capsules in subjects who are seropositive for CMV and human immunodeficiency virus.1

MANAGEABLE SAFETY PROFILE.
The most common adverse events reported in a study (GAN 040) of liver transplant recipients included immune system disorders (graft rejection), infection, fever, abdominal pain, headache and diarrhea. There was also a trend toward increased creatinine levels (≥2.5 mg/dL) in 16% of the 150 patients treated with CYTOVENE capsules compared with 10% of the 154 patients receiving placebo; however, this was not statistically significant.2

Please see summary of product information on the following pages.

**CYTOVENE-IV** (ganciclovir sodium for injection) **AND CYTOVENE** (ganciclovir capsules)

Intravenous infusion or oral administration.

**WARNINGS:**

- **Cyclosporin:** Inhibitors of CYP3A4 should be stopped 48 hours before starting CYTOVENE-IV and should not be restarted until 2 days after the last dose of CYTOVENE-IV.
- **Drug Interactions:** The effects of other concomitantly administered drugs on the pharmacokinetics of CYTOVENE-IV or CYTOVENE oral administration are not known.

**CONTRAINDICATIONS:**

- Patients with a history of allergic reactions to any component of CYTOVENE-IV or CYTOVENE.
- Patients who have tested positive for human immunodeficiency virus (HIV-infected patients).
- Patients with life-threatening drug reactions to ganciclovir.

**ADVERSE REACTIONS:**

- **Gastrointestinal:** Nausea, vomiting, diarrhea, abdominal pain.
- **Hematological:** Thrombocytopenia, anemia, neutropenia, leucopenia.
- **Skin:** Rash, pruritus, urticaria.

**DOSE AND ADMINISTRATION:**

- **IV Administration:** Dilute to a final concentration of 1000 mg ganciclovir in 500 mL of saline or D5W. Infuse over 1-2 hours. The dose should be decreased in patients with renal impairment.
- **Oral Administration:** Tablets are not recommended for patients with a history of severe drug reactions to ganciclovir.

**SIDE EFFECTS:**

- **Gastrointestinal:** Nausea, vomiting, diarrhea, abdominal pain.
- **Hematological:** Thrombocytopenia, anemia, neutropenia, leucopenia.
- **Skin:** Rash, pruritus, urticaria.

**PRECAUTIONS:**

- **Hepatitis:** Concomitant use with other antiviral agents, especially ganciclovir, may increase the risk of hepatic injury.
- **Renal Function:** Measure creatinine clearance before starting therapy and monitor throughout treatment.
- **Laboratory Tests:** Monitor complete blood count, platelet count, and liver function tests regularly.

**PREGNANCY:**

- **US Pregnancy Categories:** Category C.
- **Lactation:** Ganciclovir is excreted in human milk. Women should not breastfeed while using this medication.

**IMPEDIMENT OF FERTILITY:**

- Ganciclovir has been shown to cause fetal harm and may impair fertility. Ganciclovir should not be used in women of childbearing potential who do not have a negative pregnancy test before starting treatment.

**DIABETES MELLITUS:**

- Patients with a history of diabetes mellitus may experience worsening of their condition while taking CYTOVENE-IV or CYTOVENE.

**REFERENCES:**


**ADDITIONAL INFORMATION:**

- **Dosage and Administration:** Adjust based on renal function. For more detailed information, consult the package insert provided with the product.

---

This information is intended for healthcare professionals and is not a substitute for the package insert. Always consult the package insert for complete and up-to-date information.
**CYTOVENE®-IV (ganciclovir sodium for injection) and CYTOVENE® (ganciclovir capsules)**

**Adverse Events**: Adverse events that occurred during clinical trials of CYTOVENE-IV solution and CYTOVENE capsules are summarized below, according to the subject's systemic organ class and preferred term. These events are generally categorized as adverse reactions, new or worsening intercurrent illness, or laboratory abnormalities in 15.6% of subjects treated with CYTOVENE capsules and 16% of subjects receiving placebo. Laboratory data and adverse events reported during the conduct of these controlled trials are summarized below.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>CYTOVENE Capsules*</th>
<th>CYTOVENE-IV 5 mg/kg/day</th>
<th>CYTOVENE Capsules†</th>
<th>Placebo‡</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subjects, number</td>
<td>320</td>
<td>375</td>
<td>320</td>
<td>375</td>
</tr>
<tr>
<td>Malignant</td>
<td>(&lt;500)</td>
<td>18%</td>
<td>25%</td>
<td>18%</td>
</tr>
<tr>
<td>Malignant</td>
<td>(500-1,000)</td>
<td>13%</td>
<td>18%</td>
<td>19%</td>
</tr>
<tr>
<td>Malignant</td>
<td>(1,000-9,000)</td>
<td>19%</td>
<td>22%</td>
<td>16%</td>
</tr>
<tr>
<td>Neutropenia</td>
<td>(&lt;5.5)</td>
<td>2%</td>
<td>5%</td>
<td>1%</td>
</tr>
<tr>
<td>Neutropenia</td>
<td>(8.0-8.5)</td>
<td>10%</td>
<td>16%</td>
<td>6%</td>
</tr>
<tr>
<td>Neutropenia</td>
<td>(8.5-9.0)</td>
<td>25%</td>
<td>26%</td>
<td>15%</td>
</tr>
<tr>
<td>Maximum Serum Creatinine</td>
<td>(&gt;2.5)</td>
<td>1%</td>
<td>2%</td>
<td>1%</td>
</tr>
<tr>
<td>Maximum Serum Creatinine</td>
<td>(\leq 2.5)</td>
<td>12%</td>
<td>14%</td>
<td>12%</td>
</tr>
</tbody>
</table>

* Pooled data from treatment studies, CMU 1653, Study IIA 774 and Study AM 034

**Selected Adverse Events Reported in \(\geq 5\%\) or More of the Subjects in Three Controlled Clinical Trials in Treatment with Either CYTOVENE-IV Solution (5 mg/kg/day) or CYTOVENE capsules (300 mg/day), and in one open-labelled clinical trial in which CYTOVENE capsules (3000 mg/day) were compared to placebo for the prevention of CMV disease.

**Selected Adverse Events Reported in \(\geq 20\%\) of Subjects in Three Randomized Placebo Studies in Patients Treated with CYTOVENE-IV for the Prevention of CMV disease and in One Placebo-Controlled Study Comparing CYTOVENE Capsules to Placebo for Prevention of CMV disease.

**Maintenance Treatment Studies**

<table>
<thead>
<tr>
<th>Body System</th>
<th>Adverse Event</th>
<th>Capsules (n=179)</th>
<th>Placebo (n=179)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Body as a Whole</strong></td>
<td>Fever</td>
<td>39%</td>
<td>49%</td>
</tr>
<tr>
<td></td>
<td>Infection</td>
<td>23%</td>
<td>35%</td>
</tr>
<tr>
<td></td>
<td>Sepsis</td>
<td>5%</td>
<td>7%</td>
</tr>
<tr>
<td></td>
<td>Sepsis</td>
<td>1%</td>
<td>2%</td>
</tr>
<tr>
<td><strong>Dysgastic System</strong></td>
<td>Diarrhea</td>
<td>45%</td>
<td>44%</td>
</tr>
<tr>
<td></td>
<td>Anorexia</td>
<td>14%</td>
<td>14%</td>
</tr>
<tr>
<td></td>
<td>Vomiting</td>
<td>13%</td>
<td>13%</td>
</tr>
<tr>
<td></td>
<td><strong>Hemato-Lymphatic System</strong></td>
<td>Leukopenia</td>
<td>25%</td>
</tr>
<tr>
<td></td>
<td>Anemia</td>
<td>6%</td>
<td>6%</td>
</tr>
<tr>
<td></td>
<td>Thrombocytopenia</td>
<td>6%</td>
<td>6%</td>
</tr>
<tr>
<td><strong>Cardiac System</strong></td>
<td>Heart failure</td>
<td>5%</td>
<td>8%</td>
</tr>
<tr>
<td></td>
<td>Heart failure</td>
<td>1%</td>
<td>1%</td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td>11%</td>
<td>12%</td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td>6%</td>
<td>5%</td>
</tr>
<tr>
<td><strong>Cataract Related</strong></td>
<td>Total Cataract Events</td>
<td>6%</td>
<td>4%</td>
</tr>
<tr>
<td></td>
<td>Cataract infection</td>
<td>4%</td>
<td>4%</td>
</tr>
<tr>
<td></td>
<td>Glaucoma</td>
<td>0%</td>
<td>0%</td>
</tr>
</tbody>
</table>

* Some of these events also appear under other body systems.

**Controlled Trials - Transplant Recipients**

**Controlled Trials - Transplant Recipients**

<table>
<thead>
<tr>
<th>Heart Allograft</th>
<th>Bone Marrow Allograft</th>
</tr>
</thead>
<tbody>
<tr>
<td>KIM 1496</td>
<td>1000</td>
</tr>
<tr>
<td>KIM 1609</td>
<td>1500</td>
</tr>
</tbody>
</table>

**Maximum Serum Creatinine Levels**

<table>
<thead>
<tr>
<th>CYTOVENE-IV</th>
<th>Placebo</th>
<th>CYTOVENE-IV</th>
<th>Control</th>
<th>CYTOVENE Capsules</th>
<th>Placebo</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Creatinine</td>
<td>22.5 mg/dL</td>
<td>18%</td>
<td>4%</td>
<td>20%</td>
<td>0%</td>
</tr>
<tr>
<td>Serum Creatinine</td>
<td>(&lt;2.5)</td>
<td>58%</td>
<td>50%</td>
<td>35%</td>
<td>43%</td>
</tr>
</tbody>
</table>

In 3 out of 4 trials, patients receiving either CYTOVENE-IV solution or CYTOVENE capsules had elevated serum creatinine levels in comparison to those receiving placebo. Most patients in these studies also received corticosteroids. The mechanism of impaired renal function is not fully known. However, careful monitoring of renal function during therapy with CYTOVENE-IV solution or CYTOVENE capsules is essential, especially for those patients receiving concomitant agents that may cause nephrotoxicity.

**Pharmaceuticals**

Roche Laboratories Inc.
340 Kingland Street, Nutley, New Jersey 07110-1199
ASN Research Award Program

Carl W. Gottschalk Research Scholar Award

The Carl W. Gottschalk Research Scholar Award is designed to foster the independent careers of young investigators in biomedical research related to nephrology. The award recognizes an individual of promise by providing him or her with $75,000 annually for two years to cover salaries/supplies related to the submitted research proposal.

Application deadline:
Applications are due by December 1 of each year for funding the following year.

Criteria:
Applicants shall be active ASN members, hold an M.D., or Ph.D., or equivalent degree, and have a full-time faculty appointment at the time of the initiation of the award. No more than six years shall have elapsed since the beginning of the applicant’s nephrology fellowship or first postdoctoral training.

Career Enhancement Grant

The ASN Career Enhancement Grant is designed as a bridge grant to support investigator’s meritorious research applications that were close to the funding range, but did not receive NIH funding. These awards provide $50,000 for one year and are designed only for those investigators who lack sufficient funds to maintain their laboratory efforts for the period needed to submit a revised grant proposal.

Application deadlines:
February 15      May 15      October 15

Criteria:
(1) Applicants must be active ASN members who have submitted an NIH grant proposal in the field of nephrology that was favorably reviewed and close to the funding range, but did not receive support; (2) Applicants shall not have other substantial research funding for the specific unfunded proposal or other projects; (3) Applicants shall have a full-time academic appointment at the time the award is initiated.

To receive an award application,
contact:
The American Society of Nephrology
1200 19th Street, N.W.
Suite 300
Washington, DC 20036
Tel. 202-857-1190
Fax: 202-223-4579
E-mail: asn@dc.sba.com
Introducing the
Transplant Learning Center

...Because a Little Extra "TLC" Can Make a Big Difference

- An innovative, interactive lifestyle management program for transplant recipients and their health care teams*

- Addresses issues critical to long-term graft success and the long-term health and emotional well-being of transplant recipients

- Developed and overseen by an Advisory Board of experts in transplantation and related fields

- Brought to you by the world leader in transplant medicine, Novartis, the maker of Neoral® (cyclosporine for microemulsion) and Sandimmune® (cyclosporine, USP)

For more information about the TLC Program, talk to your Novartis representative or call toll free 1-888-TLCENTER (852-3683).

Transplant Learning Center
Learning for a Lifetime

*Provided free to eligible solid-organ recipients, 18 years and older, who take Neoral® or Sandimmune®. Please see brief summary of prescribing information and boxed warning for Neoral on the adjacent page.
Unlike many immunosuppressive agents, the risk increases significantly at high concentrations. Cytostatic exposure will be greater with Neoral than with Sandimmune, if a patient who is receiving exceptionally high doses of Sandimmune is switched to Neoral.

Neoral patients should be monitored in therapeutic drug monitoring for cyclosporine A concentrations. An increase in cyclosporine exposure with Neoral compared to Sandimmune will also be shown after single and multiple dose administration of Neoral and Sandimmune. The frequency and severity of adverse reactions increased with dose and duration of cyclosporine exposure.

The difference between Neoral and Sandimmune did not become apparent until the trough levels were higher than 500 ng/mL (0.5 μg/mL) and it was more pronounced at trough levels exceeding 1000 ng/mL (1.0 μg/mL).

Neoral is not biologically interconvertible to Sandimmune, conversion from Neoral to Sandimmune may result in lower cyclosporine blood concentrations. Conversion from Neoral to Sandimmune is not recommended.

It is not unusual for serum creatinine and BUN levels to be elevated during cyclosporine therapy. These elevations in renal function may not be associated with clinical evidence of disease or dysfunction. Patients receiving Neoral require frequent monitoring of serum creatinine levels, especially early in therapy. Elevation of serum creatinine is a condition that is not always related to the effective agents in therapy or to the ingredients of the formulation.

Cyclosporine A (Neoral, Sandimmune), the active ingredient of Neoral, can cause nephrotoxicity and nephroptosis. The risk increases with increasing doses of cyclosporine. Renal dysfunction including structural damage is a potential consequence of Neoral and therefore renal function should be monitored during therapy.

Patients receiving Neoral require frequent monitoring of serum creatinine. Elderly patients should be monitored with particular attention to renal function. Patients who are hemodialyzed should have the dose adjusted appropriately. All patients should be monitored with particular attention to renal function until steady state is achieved, which may require 24-48 hours for patients who are not prospectively dialyzed and for 4-7 days for patients who are prospectively dialyzed. The frequency and severity of adverse reactions increased with dose and duration of cyclosporine exposure.

An increase in serum creatinine and BUN may occur during Neoral therapy and reflect a reduction in the glomerular filtration rate. Although some of the patients who are initially dialyzed are able to achieve a functional renal response, the frequency and severity of adverse reactions increased with dose and duration of cyclosporine exposure.

Hepatotoxicity: Most of the side effects of Neoral are nausea, vomiting, anorexia, and diarrhea. These were seen in approximately 10% of patients. Other reported side effects include: fever, rash, leukocytosis, hematomas, pruritus, rashes, alopecia, fever, meningitis, angioedema, rash, and fever.

Neoral should be used only if the patient has been monitored in patients with a hyperlipidemia to cyclosporine or to any of the ingredients of the formulation.

Although Neoral is a cyclosporine nephrotoxicity and hepatotoxicity. The risk increases with increasing doses of cyclosporine. Renal dysfunction including structural damage is a potential consequence of Neoral and therefore renal function should be monitored during therapy. Though Neoral and Neoral should be used in combination with a hyperlipidemia to cyclosporine.

Cyclosporine therapy should be discontinued if the renal function does not improve after 2 weeks of treatment with Neoral.

Limited data is available to determine the appropriate treatment of patients with Neoral and Neoral. The frequency and severity of adverse reactions increased with dose and duration of cyclosporine exposure.

A negative correlation between serum creatinine and cyclosporine exposure has been observed. The frequency and severity of adverse reactions increased with dose and duration of cyclosporine exposure.

It is not unusual for serum creatinine and BUN levels to be elevated during cyclosporine therapy. These elevations in renal function may not be associated with clinical evidence of disease or dysfunction. Patients receiving Neoral require frequent monitoring of serum creatinine levels, especially early in therapy. Elevation of serum creatinine is a condition that is not always related to the effective agents in therapy or to the ingredients of the formulation.

Cyclosporine A (Neoral, Sandimmune), the active ingredient of Neoral, can cause nephrotoxicity and nephroptosis. The risk increases with increasing doses of cyclosporine. Renal dysfunction including structural damage is a potential consequence of Neoral and therefore renal function should be monitored during therapy.

Patients receiving Neoral require frequent monitoring of serum creatinine. Elderly patients should be monitored with particular attention to renal function. Patients who are hemodialyzed should have the dose adjusted appropriately. All patients should be monitored with particular attention to renal function until steady state is achieved, which may require 24-48 hours for patients who are not prospectively dialyzed and for 4-7 days for patients who are prospectively dialyzed. The frequency and severity of adverse reactions increased with dose and duration of cyclosporine exposure.

An increase in serum creatinine and BUN may occur during Neoral therapy and reflect a reduction in the glomerular filtration rate. Although some of the patients who are initially dialyzed are able to achieve a functional renal response, the frequency and severity of adverse reactions increased with dose and duration of cyclosporine exposure.

Hepatotoxicity: Most of the side effects of Neoral are nausea, vomiting, anorexia, and diarrhea. These were seen in approximately 10% of patients. Other reported side effects include: fever, rash, leukocytosis, hematomas, pruritus, rashes, alopecia, fever, meningitis, angioedema, rash, and fever.
Application for Active and Corresponding Membership

LAST NAME   FIRST NAME   MIDDLE INITIAL(s)

PREFERRED MAILING ADDRESS

CITY  STATE/PROVINCE  ZIP/POSTAL CODE  COUNTRY

BUSINESS ADDRESS (IF NOT LISTED ABOVE)

CITY  STATE/PROVINCE  ZIP/POSTAL CODE  COUNTRY

BUSINESS TELEPHONE  BUSINESS FAX  E-MAIL ADDRESS

Date of Birth__________________  Sex__________________  Country of Citizenship__________________

If you reside in the U.S., but are not a U.S. citizen, please provide visa status__________________

(Individuals residing in the U.S. with temporary visa status will apply for corresponding membership.)

Academic Appointment:  _______________ Full Time  _______________ Part Time  _______________ None

Primary Professional Interest (e.g., Adult Nephrology, Pediatric Nephrology, Pathology, Urology, Physiology, etc.)

Primary Institutional Affiliation (e.g., Medical School-Faculty/Clinical Dept., Medical School-Faculty/Research Dept., Hospital Staff/Clinical Staff, Private Practice, Armed Forces or Other Federal Services, etc.)

Present Hospital/University Appointments (titles and departmental affiliations)

Please indicate the amount of time spent on the following. Your total should amount to 100%.

Clinical_________  Research_________  Teaching_________  Administration_________  Other_________

Professional Education and Training (To qualify for active and corresponding membership you must have an M.D., Ph.D. or equivalent, such as D.O., D.V.M., F.R.C.P., M.B.B.S., Pharm.D., etc.)

Institutional Name/Address  Degree  Dates

For office use only:

ID#:__________________  Date entered:__________________  Check#:__________________  Check name:__________________
Training in Nephrology (Give inclusive dates for residences, fellowships, other relevant postgraduate education.)

Institution Name and Address

Position

Preceptor(s)

Inclusive Dates

List your five most significant publications.

Describe your clinical experiences as a specialist and consultant in kidney disease and related conditions that would provide basis for qualification of membership.

List other societies to which you belong.

Provide names and addresses of three persons from whom letters of reference may be requested if needed.

Please return your completed application with the first year's dues (see below) payable to the ASN in U.S. funds.

$125—ACTIVE MEMBERSHIP for residents of North or Central America.

$140—CORRESPONDING MEMBERSHIP for those who meet the qualifications for Active Membership, but are not residents of North or Central America. Corresponding Members will receive all Society mailings and member discounts, but do not have the right to vote or hold office.

If you would like to pay by Visa or MasterCard, please list the cardholder's name, number and expiration date below:

☐ Visa ☐ MasterCard

CARDHOLDER'S NAME (PLEASE PRINT OR TYPE) SIGNATURE

CARD NUMBER Expiration Date
Carnitine deficiency may be more serious than you think for your patients.

Carnitine plays a vital role in energy production. Typically, 75% of a patient's carnitine needs are met through dietary intake. And healthy patients depend on proper liver and kidney function to maintain adequate carnitine status. Carnitine functions by binding with fatty acids so they can be transported into the mitochondria for energy production and also binds with metabolic waste products so they can be transported out of the body.

Carnitine deficiency is hard to detect and is often overlooked. Patients who exhibit findings consistent with carnitine deficiency should be evaluated for treatment with Carnitor®.

Clinical findings associated with carnitine deficiency may be as subtle as any of the following:
- cardiomyopathy
- muscle weakness
- lethargy
- poor muscle tone
- seizures
- low levels of activity
- developmental delay
- slow growth

Carnitor® is the only treatment for carnitine deficiency.

For Carnitor® Medicare reimburse assistance, call 1-800-490-3262.

For any other questions, call 1-800-447-0169.

Transient nausea and vomiting have been observed. Please see prescribing information.
Clinical Findings Associated with Carnitine Deficiency:

- cardiomyopathy
- muscle weakness
- lethargy
- poor muscle tone
- seizures
- low levels of activity
- developmental delay
- slow growth

Conditions Associated with Increased Risk for Developing Carnitine Deficiency:

- fatty acid oxidation defects
- mitochondrial myopathy
- dialysis
- premature birth
- administration of carnitine-free TPN
- treatment for HIV—especially administration of zidovudine (AZT)
- administration of valproic acid
- administration of pivalate derivatives
- administration of emetine
- administration of sodium benzoate
The most solid choice is liquid

Chromagen Forte Liquid-Iron Gelcaps

- Contains 151 mg of elemental iron—the most elemental iron available in an oral hematinic today
- Supplies the essential amount of iron for successful Epogen therapy
- Reduces the need for and risks associated with IV iron
- Delivers liquid iron to the site of optimal absorption for enhanced GI tolerability and excellent patient compliance

Recommend the most widely prescribed oral iron supplement...now formulated to meet the needs of those who need iron most.

Chromagen Forte
The strength of liquid iron in a soft gelcap

© 1998 Savage Laboratories

*Based on a nationwide survey of nephrologists. Data on file, Savage Laboratories.
1 Epogen (epoetin alfa) is a registered trademark of Amgen Inc.
DESCRIPTION
CONTENTS: Each brown soft gelatin capsule contains: ferrous fumarate USP 460 mg (151 mg elemental iron), ascorbic acid USP 60 mg, folic acid USP 1 mg, cyanocobalamin USP 10 mcg.

DISCUSSION: The amount of elemental iron and the absorption of the iron components of commercial iron preparations vary widely. It is further established that certain "accessory components" may be included to enhance absorption and utilization of iron. Chromagen® Forte Capsules are formulated to provide the essential factors for a complete, versatile hematric.

ACTIONS
HIGH ELEMENTAL IRON CONTENT: Ferrous fumarate, used in Chromagen® Forte Capsules, is an organic iron complex which has the highest elemental iron content of any hematric salt - 33%. This compares with 20% for ferrous sulfate (hepatylate) and 13% for ferrous gluconate.1 Chromagen® Forte contains 151 mg of elemental iron.

MORE COMPLETE ABSORPTION: It has been repeatedly shown that ascorbic acid, when given in sufficient amounts, can increase the absorp
tion of ferrous iron from the gastrointestinal tract.2 The absorption-promoting effect is mainly due to the reducing action of ascorbic acid within the gastrointestinal lumen, which helps to prevent or delay the formation of insoluble or less dissociated ferric compounds.3

PROMOTES MOVEMENT OF PLASMA IRON: Ascorbic acid also plays an important role in the movement of plasma iron to storage depots in the tissues.2 The action, which leads to the transport of plasma iron to ferritin, presumably involves its reducing effect, converting transferrin iron from the ferric to the ferrous state.4 There is also evidence that ascorbic acid improves iron utilization, presumably as a further result of its reducing action,5 and some evidence that it may have a direct effect upon erythropoiesis. Ascorbic acid is further alleged to enhance the conversion of folic acid to a more physiologically active form, folinic acid, which would make it even more important in the treatment of anemia since it would aid in the utilization of such a vitamin.

EXCELLENT ORAL TOLERATION: Ferrous fumarate is used in Chromagen® Forte Capsules because it is less likely to cause the gastric disturbances so often associated with oral iron therapy. Ferrous fumarate has a low ionization constant and high solubility in the entire pH range of the gastrointestinal tract. It does not precipitate proteins or have the astrignency of more ionizable forms of iron, and does not interfere with proteolytic or diastatic activities of the digestive system. Because of excellent oral toleration, Chromagen® Forte Capsules can usually be administered between meals when iron absorption is maximal.

FOVIC ACID SUPPLEMENTATION: The use of supplemental folic acid may be indicated in patients with increased requirements for this vitamin, such as iron deficiency anemia. Folic acid administration may reduce the risk of neural tube defects in the developing fetus.6 Folic acid has also been shown to reduce circulating homocysteine levels in the blood.7,8

Folate as 5-methyltetrahydrofolate and &beta; as methylcobalamin are involved in the remethylation reaction of homocysteine to methionine.9,10 Elevated homocysteine plasma levels are associated with increased risk of preeclampsia, neural tube defects, myocardial infarction and arteriosclerosis.11

TOXICITY: Ferrous fumarate was found to be the least toxic of three popular oral iron salts, with an oral LD₅₀ of 630 mg/kg. In the same report, the LD₅₀ of ferrous gluconate was reported to be 235 mg/kg and ferrous sulfate 230 mg/kg.11

INDICATIONS
For treatment of all anemias responsive to oral iron therapy, such as hypochromic anemia associated with pregnancy, chronic or acute blood loss, dietary restriction, metabolic disease and post-surgical convalescence.

CONTRAINDICATIONS
Hemochromatosis and hemosiderosis are contraindications to iron therapy. Folic acid is contraindicated in patients with pernicious anemia (see PRECAUTIONS).

WARNING
Accidental overdose of iron-containing products is a leading cause of fatal poisoning in children under 6. Keep this product out of reach of children. In case of accidental overdose, call a doctor or poison control center immediately.

PRECAUTIONS
Folic acid should not be prescribed until the diagnosis of pernicious anemia has been eliminated, since it can alleviate the hematologic manifestations, while allowing neurological damage to continue undetected.

ADVERSE REACTIONS
Average capsule doses in sensitive individuals or excessive dosage may cause nausea, skin rash, vomiting, diarrhea, precordial pain, or flushing of the face and extremities.

DOSAGE AND ADMINISTRATION
Usual adult dose is 1-2 soft gelatin capsules daily, or as directed by a physician.

HOW SUPPLIED
Capsules: NDC 0281-0262-18, Unit Dose Box 100

CAUTION: Federal law prohibits dispensing without prescription.

BIBLIOGRAPHY

REFERENCES

Manufactured for:
SAVAGE LABORATORIES®
a division of Attana Inc.
MELVILLE, NEW YORK 11747
by: R.P. Scherer Corporation, St. Petersburg, Florida 33702

©1997 SAVAGE LABORATORIES®
IF7028C
R9/97
The antidote for antifreeze.

- Antizol™ (fomepizole) Injection provides effective and convenient intervention as soon as ethylene glycol (EG) poisoning is suspected.
- Antizol effectively blocks formation of toxic EG metabolites, which are responsible for metabolic acidosis and renal damage.
- Antizol is a competitive inhibitor of alcohol dehydrogenase, the enzyme responsible for the preliminary step in the metabolism of EG and methanol to their toxic metabolites.
- Simple dosing protocol based on body weight.
- Easy administration—just dilute and infuse.

The most frequent adverse reactions to Antizol are headache (12%), nausea (11%), and dizziness (7%). Minor allergic reactions (rash and eosinophilia) have been reported. Antizol should be diluted before use. Ethylene glycol plasma and urine levels as well as the presence of urinary oxalate crystals should be monitored throughout treatment. Dialysis should be considered in some cases.

Please see following page for brief summary of full prescribing information. For questions of a medical nature, call 1-888-867-7426. www.orphan.com

ANTIZOL™
(fomepizole) Injection
 Takes the guesswork out of treatment.

To order Antizol, call 1-800-359-4304.

© 1998, Orphan Medical, Inc.
Brief Summary

Sterile
Caution: Must be diluted prior to use.

CLINICAL PHARMACOLOGY: Mechanism of Action: Antizol (fomepizole) is a competitive inhibitor of alcohol dehydrogenase. Alcohol dehydrogenase catalyzes the oxidation of ethanol to acetaldehyde. Alcohol dehydrogenase also catalyzes the initial steps in the metabolism of ethylene glycol (the main component of antifreeze and coolants) and methanol to their toxic metabolites.

INDICATIONS AND USAGE: Antizol is indicated as an antidote for ethylene glycol (antifreeze) poisoning, or for use in suspected ethylene glycol ingestion.

CONTRAINDICATIONS: Antizol should not be administered to patients with a documented serious or persistent hypersensitivity reaction to Antizol or other pyrazoles.

PRECAUTIONS: General: Antizol should not be given undiluted or by bolus injection. Venous irritation and phlebitis were noted in two of six normal volunteers given bolus injections (over 5 minutes) of Antizol at a concentration of 25 mg/mL. Minor allergic reactions (mild rash, eosinophilia) have been reported in a few patients receiving Antizol (see ADVERSE REACTIONS). Therefore, patients should be monitored for signs of allergic reactions.

Laboratory Tests: In addition to specific antidote treatment with Antizol, patients intoxicated with ethylene glycol must be managed for metabolic acidosis, acute renal failure, adult respiratory distress syndrome, and hypocalcemia. Fluid therapy and sodium bicarbonate administration are potential supportive therapies. In addition, potassium and sodium supplementation and oxygen administration are usually necessary. Hemodialysis is necessary in the anuric patient, or in patients with severe metabolic acidosis or azotemia (see DOSAGE AND ADMINISTRATION). Treatment success should be assessed by frequent measurements of blood gases, pH, electrolytes, BUN, creatinine, and urinalysis, in addition to other laboratory tests as indicated by individual patient conditions. Ethylene glycol plasma and urine concentrations and presence of urinary oxalate crystals should also be monitored frequently throughout treatment to assess the status of ethylene glycol and metabolites clearance. Since acidosis and electrolyte imbalances can affect the cardiovascular system, electrocardiography should be performed. In the comatose patient, electroencephalography may also be required. In addition, hepatic enzynes and white blood cell counts should be monitored during treatment, as transient increases in serum transaminase levels and eosinophilia have been noted with repeated Antizol dosing.

Drug Interactions: Oral doses of Antizol (10-20 mg/kg), via alcohol dehydrogenase inhibition, significantly reduced the rate of elimination of ethanol by approximately 40% given to healthy volunteers in moderate doses. Similarly, ethanol decreased the rate of elimination of Antizol by approximately 50% by the same mechanism. Reciprocal interactions may occur with concomitant use of Antizol and drugs that increase or inhibit the cytochrome P-450 system (e.g., phenytoin, carbamazepine, cimetidine, ketoconazole), though this has not been studied.

Carcinogenesis, Mutagenesis, and Impairment of Fertility: There have been no long-term studies performed in animals to evaluate carcinogenic potential. There was a positive Ames test result in the Escherichia coli tester strain WP2uvrA and the Salmonella typhimurium tester strain TA102 in the absence of S9 mix. In rats, fomepizole (110 mg/kg) administered orally for 40 to 42 days resulted in decreased testicular mass (approximately 6% reduction). This dose is approximately 0.6 times the human maximum daily exposure based on surface area (mg/m²). This reduction was similar for rats treated with either ethanol or fomepizole alone. When fomepizole was given in combination with ethanol, the decrease in testicular mass was significantly greater (approximately 30% reduction) compared to those rats treated exclusively with fomepizole or ethanol.

Pregnancy: Pregnancy Category C: Animal reproduction studies have not been conducted with fomepizole. It is also not known whether Antizol can cause fetal harm when administered to pregnant women or can affect reproduction capacity. Antizol should be given to pregnant women only if clearly needed.

Nursing Mothers: It is not known whether this drug is excreted in human milk. Because many drugs are excreted in human milk, caution should be exercised when Antizol is administered to a nursing woman.

Pediatric Use: Safety and effectiveness in pediatric patients have not been established.

Geriatric Use: This drug is known to be substantially excreted by the kidney, and the risk of toxic reactions to this drug may be greater in patients with impaired renal function. Because elderly patients are more likely to have decreased renal function, care should be taken in dose selection.

ADVERSE REACTIONS: The most frequent adverse events reported in the 76 patients and 63 normal volunteers who received Antizol were headache (12%), nausea (11%), and dizziness (7%). Other adverse events reported in approximately 6% or fewer were dizziness, vomiting, diarrhea, anorexia, dry mouth, and dysphoria. Nervous System: Dizziness, ataxia, tremors, numbness, paresthesia, depression, insomnia, drowsiness, constipation, and syncope were reported. Cardiovascular: Headache, chest pain, chest tightness, palpitations, syncope, chest discomfort, upper leg discomfort, syncope, palpitations, chest pain, chest tightness, peripheral edema, claudication, and shortness of breath were reported. Respiratory: Cough, dyspnea, bronchitis, pharyngitis, angina, and chest pain were reported. Other: Acne, pruritus, increased weight, and increased appetite were reported. Laboratory: Increases in BUN (13%), creatinine (13%), AST (13%), ALT (13%), and alkaline phosphatase (13%) were reported. Decreases in total white blood cell counts (13%) and platelet counts (13%) were reported. Anemia, thrombocytopenia, neutropenia, and leukopenia were reported. Other: Eosinophilia, anemia, thrombocytopenia, neutropenia, and leucopenia were reported. Antizol causes a reversible increase in the frequency and duration of the P wave in the electrocardiogram. Antizol should be stopped if patients have symptoms of hypocalcemia.

HOW SUPPLIED: Antizol is supplied as a sterile, preservative-free solution for intravenous use as: NDC 02616-003-34 1 g/mL, 1.5 mL vials in packages of four vials. Store at controlled room temperature, 20° to 25°C (68° to 77°F) [see USP].

Caution: Federal law prohibits dispensing without prescription.

© 1996, Orphan Medical, Inc.

KIDNEY DISEASE IN PRIMARY CARE
Anil K. Mandal, MD and N. Stanley Nahman, Jr, MD
1998/400 pages/225 illustrations/0-863-30057-1/$39.95

From US:
Call: 1-800-638-0672
Fax: 1-800-447-8438

From Canada:
Call: 1-800-665-1148
Fax: 1-800-665-0103

Outside US & Canada:
Call: 410-528-4223
Fax: 410-528-8550

Phone orders accepted 24 hours a day, 7 days a week (US only). Prices subject to change without notice.

Printed in US 98 MANDALAN

ASAN Basic Science/ISN Forefronts Conference
Presented by: The American Society of Nephrology (ASN) and The International Society of Nephrology (ISN)
October 28-31, 1998 • Skytop Lodge • Skytop, PA

Ion Channelopathies: Hereditary Dysfunction of Ion Channels

Specific topics will include:
• Mechanisms of Ion Channel Dysfunction: Relating Structure to Function
• Defective Ion Channel Molecular Complexes and Accessory Subunit Dysfunction
• Disorders Involving Abnormal Ion Channel Assembly Trafficking and Targeting
• Role of Ion Channel Defects in Disorders with Complex or Multisystem Pathophysiology
• Therapeutic Strategies in the Ion Channelopathies

Conference Chairs:
Alfred George, Vanderbilt University
Soren Hemberg, Vanderbilt University
Bruce Barlow, Dartmouth Medical School

For more information regarding course registration and/or application for course young investigator travel grants, please contact Neely Nichols at the ASN at 202-857-1100 or Email neely_nichols@kidsc.com.

The ASAN Basic Science/ISN Forefronts Conference will conclude ASN’s 1998 Renal Week — the premier week in nephrology
The American Society of Nephrology Board Review Course & Update continues to expand - this year offering 24 new workshops to supplement the main review. These workshops have been scheduled during breakfast and lunch so as not to conflict with the general session. Choose the workshops that best suit your needs!

Again this year, 10 advanced workshops will be presented concurrently with the main review allowing certified nephrologists to plan their own customized course - obtaining the information they need from the main review and attending some or all of the advanced workshops.

In addition to 24 supplementary workshops and 10 advanced workshops, the 1998 Board Review Course & Update will offer:

- Lectures
- Panel Discussions
- Case Discussions
- UpToDate® (projected onto a viewing screen)
- Electrolyte Quiz
- Audience Response Pads
- Final Exam
- Up to 50 Hours of Continuing Medical Education (CME) Credits

Enrollment is limited!

For more information or to request a brochure, please contact:
The American Society of Nephrology
Telephone: (202) 857-1190
Fax: (202) 223-4579
E-Mail: christine_fiorini@dc.sba.com
Web Site: www.asn-online.com
An injectable iron therapy
in a class of its own

Coming soon from
Schein Pharmaceutical