AMERICAN HEALTH CONSULTANTS®

RN® DRUG ALERT

Cutting-Edge Updates in Therapeutics and Drug Data

INSIDE

AUGUST 2001

VOL. 1, NO. 2 (pages 9-16)

For more information, call: (800) 688-2421.

CDC urges clinicians to expect delays, plan for influenza vaccine

By **Joan Unger**, RN, MS, ARNP
and **William T. Elliott**, MD, FACP

Citing lower manufacturer capacity, the Centers for Disease Control and Prevention (CDC) in Atlanta urges health care providers to order their flu vaccines now.

The CDC warns nurses and doctors that the 2001-2002 flu vaccine may again be delayed and urges all health care providers to ensure that high-risk individuals are targeted for early prevention. Although the problem is not expected to be as severe as last year, the Advisory Committee on Immunization Practices (ACIP) of the CDC recently released supplemental influenza recommendations. Emphasis will be placed on making the initial supply of influenza vaccine available to health care providers who serve persons in high-risk categories.

Providers who order late may delay their orders. ACIP asks manufacturers, distributors, and vendors to ensure that all providers who have placed orders receive some early-season vaccine, which makes it possible for them to vaccinate high-risk patients early. ACIP also suggests manufacturers delay vaccine distribution to sites primarily vaccinating healthy workers until November and that providers be informed of the amount and date of shipment so high-risk patients can be notified of the vaccine's availability.

The CDC explains that this year's delay is a result of a lower manufacturing capacity as the number of manufacturers has dropped from four to three. Still, the CDC predicts that 64% of the vaccine supply (49.8 million doses) will be available by the end of October, more than twice the amount available last October, with an additional 27.3 million doses available by November or December. The total supply, similar to 1999 and greater than in 2000, should be adequate by the end of November.

An important change found in the current ACIP recommendations extends the optimal time for vaccinating individuals at high risk from mid-November to the end of November. Vaccination rates typically peak in October or early November, whereas the disease itself peaks between December and March. However, in 15 of the last 19 years, peak influenza activity occurred between January and March, which indicates that flu vaccination in November, December, and even later is effective in most flu seasons. As a result, the CDC recommends that immunizations should

continue into January if necessary and also suggests that to avoid missed opportunities, vaccine (if available) should be offered to high-risk persons when they are seen for routine care or are hospitalized in September.

• **Nursing considerations.**

The flu shot is the best protection you can give your patients against influenza and its complications. Numerous variables affect the severity of any flu season, many of which cannot be fully anticipated or prevented. Nurses can help protect their patients by arming themselves with the most current CDC information and by following the ACIP recommendations. It is especially important to do the following:

— Make sure you know who the high-risk target groups are, especially in children. **(See Target Groups for Priority Influenza Vaccination, right.)**

— Develop a contingency plan in case of a major delay or shortage so your immunization efforts are targeted to administer early-available flu vaccine to persons at greatest risk of complications.

— Identify high-risk patients for notification and target the vaccine available in September and October for those at increased risk for influenza complications and for health care workers.

— In November, begin offering vaccine to contacts of high-risk persons, healthy persons aged 50-64, and others wanting to reduce their risk for influenza.

— Continue vaccination through December and as long as vaccine is available.

The CDC says that *minor* illnesses with or without fever do not contraindicate the use of influenza vaccine, particularly among children with mild upper respiratory tract infection or allergic rhinitis. However, persons with *acute* febrile illness usually should not be vaccinated until their symptoms have abated.

Patients often have myriad questions about influenza vaccination. You can save time and avoid misunderstandings by offering printed information. Information regarding individual vaccine components can be found in package inserts from each manufacturer. Explain the following:

• Viruses in the vaccine are killed, so they cannot get influenza from the vaccine.

• Influenza viruses change from year to year, and each year's vaccine is manufactured to be as effective as possible against the specific strain anticipated for the current year.

• It is still possible to contract flu from a virus that is not covered by the current vaccine, but vaccinated people who do contract influenza often have a milder case than those who did not get the vaccine. People sometimes mistake any illness with fever and cold symptoms for flu.

• Protection develops about two weeks after immunization and may last up to a year. ■

Target Groups for Priority Influenza Vaccination

People at High Risk of Complications:

- 65 years or older
- Those under 65 years of age with chronic illness, including heart and lung diseases and diabetes
- People of any age who reside in nursing homes and chronic-care facilities and have chronic medical conditions
- Adults and children with chronic disorders of pulmonary or cardiovascular systems, including asthma
- Adults and children who have received medical treatment or hospitalization in the previous year for chronic metabolic diseases (including diabetes mellitus), renal dysfunction, hemoglobinopathies, or immunosuppression (caused by medications or HIV)
- Children and teen-agers, 6 months to 18 years, receiving long-term aspirin therapy (could develop Reyes syndrome after flu infection)
- Women in the second or third trimester of pregnancy during the flu season
- People between 50 and 64 years of age. This group has an increased prevalence of high-risk conditions. Even if some are not in a high-risk category, they can benefit from vaccination to avoid influenza, miss fewer days from work, and have less need for medical visits and medication, including antibiotics.

People Who Can Transmit Influenza to Those at High Risk:

- Nurses, physicians and other persons in hospital and outpatient care settings, including emergency response workers
- Employees of nursing homes and chronic care facilities who have contact with patients or residents
- Employees of assisted living and other residences for people in high-risk groups
- People who provide home care to people in high-risk groups
- Household members, including children, living with people in high-risk groups.

Source: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Immunization Program, Atlanta. Web: www.cdc.gov/nip/flu/target.groups.htm.

Diclofenac gel treats actinic keratosis

By **William T. Elliott**, MD, FACP
and **James Chan**, PharmD, PhD

Diclofenac gel, marketed under the trade name Solaraze, is indicated for the topical treatment of actinic keratosis (AK). It is reaching the market just several months after receiving Food and Drug Administration (FDA) approval. The gel combines the anti-inflammatory diclofenac with hyaluronate sodium, reported to enhance drug delivery to pathological sites,[1] for the topical treatment of these common skin lesions.

AK is a common pre-malignant inflammatory skin lesion involving areas of the body exposed to the sun. The prevalence of the disease is believed to be about 25% in the Western Hemisphere and more prevalent in individuals with fair complexion and older than 50 years.[2,3] Left untreated, AK may progress to squamous cell carcinoma. Current treatment options range from topical application of 5-fluorouracil or masoprocol to excisional surgery, Mohs surgery, cryosurgery, or radiotherapy, but each has its limitations. Diclofenac gel offers another, perhaps better-tolerated option for treatment of these common skin lesions.

• **Clinical Implications.**

Diclofenac is a cyclooxygenase inhibitor used widely in the oral form for the treatment of pain and inflammation. It also is used as a topical ophthalmic drop for post-cataract surgery and prior to corneal refractive surgery. The mechanism of action of diclofenac in AK is not known, but it has been proposed that the inhibition of antiangiogenesis may be a mechanism of action.[1] In clinical trials reported by the manufacturer, diclofenac gel had a success rate of 18%-47% compared to 10%-20% for the vehicle alone.[4] Success was defined as complete clearance of AK lesions 30 days after completion of treatment. Statistical differences were demonstrated for lesions on the forehead and face, but not on the scalp, arm / forearm, and the back of the hand, although numerical advantage was reported for these body locations.

• **Dosage.**

Diclofenac gel is gently smoothed onto the lesion areas twice daily. The amount should be enough to cover each lesion adequately. Normally 0.5 g of gel is used on each 5 cm x 5 cm lesion site. One-half gram of gel covers about 25 cm of lesion. The recommended duration of therapy is 60-90 days. Diclofenac gel is supplied in tubes of 25 g and 50 g at a strength of 30 mg / g (3% gel strength).

• **Nursing considerations.**

Diclofenac gel provides an alternative to other topical treatments such as masoprocol and 5-fluorouracil and may be better tolerated in terms of local adverse events. Currently there are no comparative studies with 5-fluorouracil or masoprocol. Common side effects compared to vehicle are contact dermatitis (19% vs. 4%), rash (35% vs. 20%), and dry skin (27% vs. 12%). About 18% of patients discontinue treatment due to side effects compared to 4% for the vehicle.[1] Optimal therapeutic effect may not be evident for up to 30 days. Due to some — although low — systemic absorption, diclofenac gel should be used with caution in patients with active gastrointestinal ulcers, or bleeding, or severe renal or hepatic impairment. Also, concomitant administration of nonsteroidal anti-inflammatory drugs (NSAID) should be minimized.[4]

• **Patient education.**

Warn patients to avoid exposure to sunlight or sunlamps as well as concomitant use of NSAIDs. The gel should not be applied to open skin wounds, areas of exfoliative dermatitis or infections, and should not be allowed to come in contact with the eyes. The effect and safety of using diclofenac gel in combination with dermal products such as cosmetics, sunscreens, and other topical medications is unknown. Patients need to understand the need for monitoring and follow-up, especially should severe dermal reactions (such as irritant or allergic contact dermatitis) occur.

References

1. Seed MP, et al. *Cancer Res* 1997; 57:1,625-1,629.
2. Peters DC, RH Foster. *Drugs Aging* 1999; 14:313-319.
3. Frost CA, Green AC. *Br J Dermatol* 1994; 131:455-464.
4. Solaraze Product Information. SkyePharma. October 2000. ■

New drug approved for chronic myeloid leukemia

By **William T. Elliott**, MD, FACP
and **James Chan**, PharmD, PhD

Imatinib (Gleevec) has been approved for the treatment of chronic myeloid leukemia (CML). The drug is considered a major breakthrough in oncologic therapy, and its approval was heralded with much fanfare, which included a cover story in

Time magazine. The drug is revolutionary because it targets the molecular understructure of cancer cells and leaves healthy cells alone. The drug was approved by the Food and Drug Administration (FDA) less than three months after application.

• **Clinical implications.**

CML is a clonal disorder characterized by leukocytosis and the presence of immature white blood cells in the peripheral blood and hypercellular marrow with myeloid hyperplasia in the bone marrow. It is estimated that there are about 25,000 people in the United States with the disease. CML generally progresses through a chronic phase, accelerated phase, and blast crisis (acute leukemia), with median survival about six years. Current therapies — all with limitations — include allogeneic bone marrow transplantation, chemotherapy (e.g., hydroxyurea), and interferon-alfa with or without cytarabine. Imatinib provides a breakthrough treatment for CML compared to interferon.

• **Dosage.**

The recommended dose of imatinib is 400 mg daily for patients in chronic phase CML and 600 mg daily for patients with accelerated phase or blast crisis. The dose may be increased if there is disease progression, inadequate hematologic response after three months of therapy, or the loss of a previously achieved response. For patients with chronic phase CML, the dose may be increased from 400 mg daily to 600 mg daily if tolerated (i.e., absence of severe adverse hematologic or nonhematologic reactions). For patients with accelerated phase or blast crisis, the dose may be increased from 600 mg to 800 mg (400 mg twice daily).[1] The drug should be taken with a meal and with a large glass of water to reduce gastrointestinal irritation. Imatinib is supplied as 100 mg capsules.

• **Nursing considerations.**

Imatinib is indicated for the treatment of patients with CML in blast crisis, accelerated phase, or in chronic phase after failure with interferon therapy.[1] Imatinib appears to have significant advantages over current therapies for CML in a better and more rapid response and fewer adverse effects, and it can be given orally.[2,3] It also appears to be effective in patients who have failed interferon therapy.[4] Imatinib should be continued as long as it remains effective. The dose should be adjusted or withheld if severe nonhematologic adverse reactions (hepatotoxicity or fluid retention) or severe hematologic adverse reactions (neutropenia or thrombocytopenia) occur. Complete blood counts should be performed weekly for the first month and biweekly for the second month of therapy, and every two to three months thereafter.[1]

The most frequent side effects are nausea (55%-68%), vomiting (28%-54%), fluid retention (52%-58%), diarrhea (33%-49%), and muscle cramps (25-46%). Severe fluid retention (e.g., pleural effusion, pericardial effusion, pulmonary edema, and ascites) has been reported in 1%-2% of patients and increases with higher imatinib dose and age older than 65 years. Severe superficial edema has been reported in 1%-3% of patients. Cytopenias are more frequent with patients with accelerated CML or blast crisis than with chronic phase CML. Severe elevation of transaminases or bilirubin also can occur, and the patients should be monitored at baseline and monthly or as clinically indicated.[1]

• **Patient education.**

Patients should be helped to understand that although imatinib shows great promise and is directed at the abnormal "target" in CML, it is not a cure, is not completely effective, and does have side effects. Due to the expedited FDA approval and limited follow-up time, toxicities as a result of long-term use are not known.[1] The drug is extremely expensive. Monthly cost is about $2,400, and annual cost is about $30,000. However, Novartis will provide assistance to uninsured patients by providing the drug free to those with an annual income below $43,000 and on a sliding scale for those uninsured patients whose annual income is $43,000-$100,000.[5]

References

1. Gleevec Product Information. Novartis Pharmaceutical Corp. May 2001.
2. Goldman JM, JV Melo. *N Engl J Med* 2001; 344:1,084-1,086.
3. Druker BJ, et al. *N Engl J Med* 2001; 344:1,038-1,042.
4. Druker BJ, et al. *N Engl J Med* 2001; 344:1,031-1,037.
5. FDC Report. *The Pink Sheet* 2001; 63:3-4. ■

Postmenopausal women treated with raloxifene

Source: Yaffe K, et al. *N Engl J Med* 2001; 344:1,207-1,213.

Cognitive function was studied in 7,478 postmenopausal women with osteoporosis enrolled in the Multiple Outcomes of Raloxifene Evaluation (MORE) trial. Postmenopausal women who met criteria for osteoporosis were enrolled at 178 sites in 25 countries and randomized to receive raloxifene 60 mg or 120 mg or placebo daily for three years. There were about 2,500 women in each arm of the

study. Cognitive testing was done for orientation, concentration, and memory; visuospatial scanning, sequential processing, motor speed, executive function, attention; and memory if the subject spoke English, French, or Spanish (4,424 women).

The mean age of the women at enrollment was 66 years. The mean cognitive scores were similar at baseline in the three groups of women. The scores improved slightly in all three groups during the study period but not significantly so. Four of the six tests showed no significant difference in cognitive function decline between the two raloxifene groups combined and the placebo group. The study did indicate a trend toward less cognitive decline on the two tests of verbal memory and attention. More women in the raloxifene groups than in the placebo group reported new or worsened hot flashes, but no correlation was shown between presence or absence of hot flashes and cognitive performance.

Study authors concluded that raloxifene treatment for three years does not affect overall cognitive scores in relatively young postmenopausal women with osteoporosis. ■

Estrogen replacement therapy: Old treatment, new effects

By **William T. Elliott**, MD, FACP

The list of new and surprising findings from studies of postmenopausal estrogen replacement therapy (ERT) in healthy women grows longer almost weekly. A recent study indicated that healthy postmenopausal women have better blood pressure regulation while on ERT. This suggests that estrogen plays a role in the ability of the nervous system to control blood pressure. In the study appearing in *Circulation,* none of the women had hypertension at baseline. A separate study in the same journal found that transdermal estrogen was better at regulating blood pressure than oral estrogen. Researchers postulated that since transdermal estrogen bypasses enterohepatic circulation, more of the hormone is systemically available *(Circulation* 2001; 103:2,903-2,908; *Circulation* 2001; 103:2,909-2,914).

ERT may reduce the risk of cataracts according to an analysis of data from the Framingham Heart Study and the Framingham Eye Study I and II. Researchers examined the data for an association between lens opacities and postmenopausal estrogen use. Results indicated that women who took ERT the longest were the least at risk for developing cataracts. Women taking estrogen for 10 years or more had a 60% reduction in risk compared with nonusers (95% confidence interval). *(Arch Intern Med* 2001; 161:1,448-1,454).

Women with hypothyroidism who are being treated with thyroxine may need to increase their dose when they start begin using ERT. Estrogen leads to an increase in thyroxine-binding globulin and a decrease in serum-free thyroxine. Researchers suggest checking thyroid functions 12 weeks after initiating ERT and appropriately adjusting thyroxine doses (*N Engl J Med* 2001; 344:1,743-1,785).

Insulin

The search for a noninjectable insulin product looks promising. Pfizer and Aventis Pharmaceuticals are partnering on the development of an inhaled insulin product. Phase III data presented at the American Diabetes Association's (ADA) 61st Annual Scientific Sessions suggest that a single bedtime injection of ultralente with daytime inhaled insulin (Exubera) to replace meal-related injections is at least as effective as subcutaneous insulin injections. The inhaled insulin was evaluated in both Type 1 and Type 2 diabetics. Inhaled insulin-induced insulin antibodies developed higher levels of insulin antibodies, but the clinical significance of this finding is unclear. Researchers suggest that the inhaled insulin may result in earlier introduction of insulin therapy in Type 2 diabetes based on patients' acceptance and improved glycemic control.

Progress on an oral insulin product also was presented at the ADA session. The insulin molecule is susceptible to degradation in the intestines, but by attaching various polymeric oligomers, the molecule can be absorbed. Oral insulin also is in phase III trials.

Antibiotics

Aventis Pharmaceuticals' telithromycin (Ketek), the first of a new class of antibiotics known as ketolides, has received an "approvable" letter from the Food and Drug Administration (FDA). The drug, which can be taken orally once a day, will be indicated for upper and lower respiratory

tract infections including community acquired pneumonia. An approvable status from the FDA outlines additional information or conditions that must be met before the FDA will approve a drug.

Statin Therapy

High C-reactive protein (CRP) levels are a predictor of future coronary events and stroke. Studies have suggested that statins reduce CRP levels. A new study shows that this effect translates into lower rates of heart disease, even in patients with high CRP levels and low lipids. More than 5,700 patients were randomized to treatment with lovastatin or placebo. Researchers found that in patients with low lipids, lovastatin reduced CRP levels by 14.8%, and those patients also had a lower incidence of coronary events. An accompanying editorial suggests that measuring CRP levels along with lipid levels may become routine in healthy adults. (*N Engl J Med* 2001; 344:1,959-1,965; *N Engl J Med* 2001; 344:2,016-2,018).

Lyme Disease

A single 200-mg dose of doxycycline given within 72 hours of a tick bite is highly effective at preventing Lyme disease. Researchers from New York randomized 482 patients who had been bitten by Ixodes scapularis to doxycycline or placebo. Of those tested, a significantly smaller proportion ($P < 0.04$) of the doxycycline-treated patients (3.2%) than of the placebo patients (0.4%) developed erythema migrans at the site of the tick bite. One-third of doxycycline patients noted side effects, primarily nausea and vomiting. **See Lyme disease patient education insert in this issue** (*N Engl J Med* 2001; 345:79-84).

Synthroid under attack

The FDA status of levothyroxine (Synthroid) is in limbo despite a 40-year safety record. Prior to1962, it was not necessary to file a New Drug Application (NDA) when seeking FDA approval. Synthroid was released in 1958 and, therefore, never was required to submit a NDA. The FDA recently notified Abbott Labs that the company needed to file documentation showing the safety and efficacy of Synthroid. Abbott requested a waiver, but the FDA denied their request. In the meantime, two advocacy groups, the National Organization of Women and the Grey Panthers, are demanding that the drug be withdrawn from the market because its safety and efficacy hasn't been demonstrated. ■

Herbal medications — not harmless anymore

Source: Piscitelli SC, et al. Eighth Conference on Retroviruses and Opportunistic Infections (CROI), Chicago, Feb. 4-8, 2001. Abstract No. 743; Southwell H, et al. 8th CROI, Chicago, Feb. 4-8, 2001. Abstract No. 497.

Comment by **Thomas G. Schleis**, MS, RPH
Director of Pharmacy Services
Infections Limited
Tacoma, WA

In recent years, the sales of complementary and alternative medicines (CAMs) have skyrocketed. Once limited to health food stores, CAMs now can be found on the shelves of most pharmacies and grocery stores. The increase in sales of these products can be attributed to many different factors. The desire to achieve a healthier lifestyle, dissatisfaction with traditional medications and their side effects, and the desire for a potential cure when one does not exist in traditional medicine are just some of the reasons for this phenomenon. While some data support the clinical efficacy of some CAMs, much of their use is the result of anecdotal information.

For years, the industry surrounding the sales and marketing of CAMs was under little regulation, in part because the products appeared to be safe. Unfortunately, while these preparations individually may be safe in many cases, some serious drug interactions have surfaced over the last three to five years as CAMs have become more commonly used. Human immunodeficiency virus (HIV) medications and warfarin are pharmaceuticals that have exhibited potentially serious drug interactions with many of the herbal products. **(See Table 1, p. 15.)** Unfortunately, patients with HIV or cancer often are are looking for alternative therapies to supplement their traditional therapy — especially when the long-term prognosis is not good.

In the first of the abstracts referenced, 10 HIV-negative volunteers underwent pharmacokinetic studies to determine the potential interaction between garlic and saquinavir. Study subjects were given 1,200 mg of saquinavir three times daily with meals on days one to three. On the morning of day four, baseline levels were drawn. On days five to 25, subjects were given garlic

Table 1

Drug Interactions of Herbal Preparations with HIV Medications, Antifungals, and Warfarin

Drug	*Herbal Preparation*	*Interaction*	*Reference*
Garlic	Saquinavir*	Decreased saquinavir levels	1. Piscitelli SC, et al.
	Warfarin and other drugs with antiplatelet activity	Increased effect of warfarin	Theorized
Ginkgo biloba	Warfarin and other drugs with antiplatelet activity	Increased effect of warfarin	Theorized with warfarin, documented with aspirin (2)
Ginseng	Warfarin	Increased effect of warfarin	3. Janetzky K, Morreale AP.
Milk Thistle	Saquinavir*	Decreased saquinavir levels	4. Study ongoing at this time.
St. John's wort	Indinavir*	Decreased indinavir levels	5. Piscitelli SC, et al.
	Warfarin	Decreased effect of warfarin	6. Yue QY, et al.
	Azole antifungals	Decreased antifungal activity	Theorized

*Could potentially interact with all antiretroviral protease inhibitors such as amprenavir, indinavir, nelfinavir, ritonavir, and saquinavir as well as non-nucleoside reverse transcriptase inhibitors such as delavirdine, efavirenz, and nevirapine.

capsules of known allicin content twice daily with meals. Saquinavir again was added on days 22-24. At day 25, levels of saquinavir were measured and determined to be approximately 50% of baseline levels. It was noted that the three-day saquinavir levels remained approximately 60%-70% of baseline even after a 21-day washout. Piscitelli and associates stated that garlic supplements may produce a prolonged induction of saquinavir metabolism.

In the second study, 267 (82%) of 324 patients interviewed at the University of Cleveland from April to July 2000 confirmed using some type of alternative medication. Investigators catalogued more than 567 forms of alternative therapies during these interviews. Most patients (59%) stated they had informed their clinicians about their alternative therapy use, but researchers found it to be documented in the chart only 13% of the time. Patients were more likely to inform the nurse or doctor about their use of anabolic steroids or protein supplements than teas or alternative therapies.

- **Clinical implications.**

Garlic capsules are commonly taken by the lay public to slow the process of atherosclerosis and to control hypertension. Garlic administration has been shown to reduce blood sugar levels, cholesterol, triglycerides and low-density lipoprotein (LDL), increase high-density lipoprotein (HDL), reduce platelet adhesiveness, and increase fibrinolytic activity. It also is touted as a means to ward off coughs and colds, although scientific confirmation of this is lacking. The interaction between garlic and saquinavir was significant in healthy individuals.

RN® Drug Alert (ISSN 0190-5066) is published monthly by American Health Consultants®, 3525 Piedmont Road, Building Six, Suite 400, Atlanta, GA 30305. Telephone: (404) 262-7436. First-class postage paid at Atlanta, GA 30304. POSTMASTER: Send address changes to **RN® Drug Alert**, P.O. Box 740059, Atlanta, GA 30374.

Subscriber Information

Customer Service: (800) 688-2421 or fax (800) 284-3291, (customerservice@ahcpub.com). Hours of operation: 8:30 a.m. to 6 p.m. Monday-Thursday; 8:30 a.m.-4:30 p.m. Friday.

Subscription rates: U.S.A., one year (12 issues), $499. Outside U.S.A., add $30 per year, total prepaid in U.S. funds. Two to nine additional copies, $399 per year; 10 to 20 additional copies, $299 per year; for more than 20, call (800) 688-2421. Missing issues will be fulfilled by customer service free of charge when contacted within one month of the missing issue date. **Back issues**, when available, are $83 each. (GST registration number R128870672.)

This continuing education offering is sponsored by American Health Consultants, which is accredited as a provider of continuing education in nursing by the American Nurses Credentialing Center's Commission on Accreditation. Provider approved by the California Board of Registered Nursing. Provider Number CEP 10864. Approximately 20 nursing contact hours.

Vice President/Group Publisher: **Brenda Mooney**, (404) 262-5403, (brenda.mooney@ahcpub.com).
Editorial Group Head: **Valerie Loner**, (404) 262-5475, (valerie.loner@ahcpub.com).
Senior Managing Editor: **Joy Daughtery Dickinson**, (229) 377-8044, (joy.dickinson@ahcpub.com).
Production Editor: **Nancy McCreary**

AMERICAN HEALTH CONSULTANTS™
THOMSON HEALTHCARE

Editorial Questions

Questions or comments?
Call **Joy Daughtery Dickinson** at (229) 377-8044.

Table 2

Alternative Medicine References

Reference	Source
http://www.naturaldatabase.com	World wide web
Alternative Medicine Alert	American Health Consultants P.O. Box 740056 Atlanta, GA 30374 (800) 688-2421 www.ahcpub.com
Journal of Alternative and Complementary Medicine	Mary Ann Liebert Inc. Two Madison Ave. Larchmont, NY 10538 (914) 834-3100 www.liebertpub.com
The Review of Natural Products	Facts and Comparisons 111 W. Port Plaza Suite 300 St. Louis, MO 63146 (800) 223-0554
Clinical Pharmacology	Gold Standard Multimedia 320 W. Kennedy Blvd. Suite 400 Tampa, FL 33606 (813) 258-4747 www.gsm.com

• **Nursing considerations**.
Complicating the effective monitoring of drug interactions between CAMs and pharmaceuticals is that many patients do not consider CAMs to be "drugs," or do not divulge the use of these preparations to their health care professional for fear of ridicule. Studies show that even when patients do divulge such information, it may not be included in the patient's medical record. All practitioners need to become more familiar with herbal preparations, their potential side effects, and drug interactions. A number of resources are available and updated on a regular basis to keep care providers abreast of the current literature. **(See Table 2, above.)** These studies demonstrate the necessity of documenting all medications, prescribed and over -the-counter (OTC), as well as herbs and food supplements, whether of pharmaceutical or natural origin.

• **Patient education.**
Patients need to be made aware of prescribed medications that are prone to interact with other substances. Auxiliary personnel assisting with patient intake and histories need to understand the importance of asking about, encouraging patients to report, and documenting use of OTC drugs, supplements, and problematic foods. ■

CE*questions*

[For more information on the CE program, call (800) 688-2421.]

In this issue of *RN Drug Alert,* the reader will identify:
- the reader will identify the peak period for influenza infection in the United States.
- the reader will identify the potential consequences of untreated actinic keratosis
- the reader will identify the proper dose of a newly approved drug for chronic myeloid leukemia.

4. In 15 of the last 19 years, peak influenza activity occurred between:
   A. September and November.
   B. November and December.
   C. November and January.
   D. January and March.

5. If left untreated, actinic keratosis may progress to:
   A. basal cell carcinoma.
   B. chorionic carcinoma.
   C. scirrhous carcinoma.
   D. squamous cell carcinoma.

6. The recommended dose of imatinib for patients with accelerated phase or blast crisis chronic myeloid leukemia is:
   A. 400 mg daily.
   B. 500 mg daily.
   C. 600 mg daily.
   D. 700 mg daily.

LYME DISEASE

GENERAL INFORMATION

What is it? Lyme (lime) disease is an infection caused by being bitten by an infected deer tick. The tick must be on your skin for many hours to cause the disease. Deer, raccoons, mice, and other animals may carry deer ticks. Ticks live in areas of long grass or brush. This infection is seen most often from mid-April to mid-August. In the United States, it is more common in the Northeast, upper Midwest, and Far West.

Causes: The deer tick may be infected with a germ called a spirochete (spi-ro-keet). *Borrelia* (bor-ree-lee-uh) is the spirochete that causes Lyme disease. This germ enters your body when the deer tick bites you.

Signs and Symptoms:

- It may take 3-32 days for you to have signs of Lyme disease. You may first have a small, red raised bump, usually where the tick bit you. This could be on the upper leg, under the arm, or on the buttocks (rear end). Or the bump may be in the groin (area between legs). The bump may grow and spread into a pinkish-red rash that lasts about one month. The rash usually has a clear area in the center.

- Other signs may be sore throat, chills and fever, headache, tiredness, neck pain, and body aches. Most signs go away with or without medicine. But without medicine, you may later get long-term nerve, eye, joint, or heart problems.

Care: Antibiotic (an-ti-bi-ah-tik) medicine is used to treat early Lyme disease. Other medicines may be used to treat later signs. Heat may help joint pain, and rest may help you feel better.

CARE AGREEMENT

You have the right to help plan your care. To help with this plan, you must learn about Lyme disease. You can then discuss treatment options with your caregivers. Work with them to decide what care will be used to treat you. You always have the right to refuse treatment.

Source: Klasco R & Auracher P (Eds): CareNotes™ System. MICROMEDEX Inc., Englewood, CO (Vol. 20, expires 9/2001).

ENFERMEDAD DE LYME

INFORMACIÓN GENERAL

¿Qué es? La enfermedad de Lyme es una infección causada por la picadura de una garrapata infectada. Para causar la enfermedad, la garrapata debe estar en su piel muchas horas. Los ciervos, los mapaches y los ratones, pueden ser portadores de las garrapatas. Las garrapatas viven en lugares donde hay arbustos y pastos. Esta infección se presenta con más frecuencia desde mediados de Abril hasta mediados de Agosto. En los Estados Unidos es más común en algunas regiones, como el nordeste, en la parte norte del medio oeste y en el lejano oeste.

Causas: La garrapata puede estar infectada con un germen llamado espiroqueta. La espiroqueta que causa la enfermedad de Lyme es la Borrelia. El germen entra en su cuerpo cuando la garrapata le pica.

Signos y síntomas:

- Los síntomas de la enfermedad de Lyme pueden demorar de 3 a 32 días en aparecer. Al principio, usted puede tener una hinchazón pequeña y roja en el sitio donde le picó la garrapata. Esto puede ser en la parte superior de la pierna, las axilas, las nalgas o en la ingle. La hinchazón puede extenderse y convertirse en una erupción rosada o roja que puede durar cerca de 1 mes. La erupción tiene generalmente un área limpia en el centro.

- Otros signos pueden ser irritación en la garganta, escalofríos, fiebre, dolor de cabeza, cansancio, dolor de cuello y dolores en el cuerpo. La mayoría de los signos pueden desaparecer con o sin medicamentos. Sin embargo, si no usa medicamentos, usted puede tener problemas de larga duración en los nervios, en los ojos, o en el corazón.

Cuidados: Para tratar el comienzo de la enfermedad de Lyme se utilizan antibióticos. Se pueden utilizar otros medicamentos para tratar los signos tardíos. El calor sirve para aliviar el dolor de las articulaciones y el descanso para que usted se sienta mejor.

ACUERDOS SOBRE SU CUIDADO

Usted tiene el derecho de participar en el plan de su cuidado. Para participar en este plan, usted debe aprender acerca de la enfermedad de Lyme. De esta forma, usted y sus médicos pueden hablar acerca de sus opciones y decidir que tratamiento se usará para su cuidado. Usted siempre tiene el derecho a rechazar su tratamiento.

Source: Klasco R & Auracher P (Eds): CareNotes™ System. MICROMEDEX Inc., Englewood, CO (Vol. 20, expires 9/2001).