Editorial comments

The first opportunity to understand Down syndrome is one of the results of a newly published catalog of all the genes on the 21st human chromosome, the second human chromosome to be sequenced in research conducted by the Human Genome Project. The causes of amyotrophic lateral sclerosis (Lou Gehrig's disease), one form of Alzheimer's disease, and some types of cancer and heart disease are also located at this site.

Down syndrome occurs when three copies of chromosome 21 are inherited rather than two. Researchers will now be able to identify miscues that lead to the mental problems, malformations of the heart, problems with the gastrointestinal tract, and other problems associated with Down syndrome.

The results also changed researchers' estimations as to the number of genes on both chromosomes, originally thought to be around 150,000, but now known to be closer to 40,000. This may mean that fewer genes contribute to the quality of being human.

The Human Genome Project is a research effort directed at the sequencing of all human DNA and identification of the functions of active genes. A multinational team of scientists collaborated on this project.

A new drug may arrest tumor growth in patients with advanced prostate cancer with minimal side effects. Columbia Presbyterian researchers found that exisulind (Aptosyn), one of a new class of compounds called selective apoptotic antineoplastic drugs, induces cell death in cancer cells without damage to normal cells. Because apoptosis (cell death) is not induced in normal cells, serious side effects are not produced.

In the trial, 96 men with recurrent prostate cancer who had had their prostate glands removed were assigned to one of two groups, with half given exisulind and half given a placebo. The patients' prostate-specific antigen levels were measured to determine the drug's effect.

Prostate cancer is the second leading cause of cancer death in men in the United States.

A new antisense therapy has been found to treat melanoma, a fatal skin cancer, observed researchers who tested the treatment developed by Genta, Inc of Massachusetts.

Cancer is the result of faulty genes that allow cells to grow uncontrollably rather than performing their normal function of controlling cell growth. In the case of melanoma, the gene bcl-2 speeds production of cells, resulting in melanoma. Antisense therapy drug treatment, called G3139, slows bcl-2 with few side effects, and makes it more vulnerable to chemotherapy.

The report of this treatment was presented in April at the annual meeting of the American Association for Cancer Research in San Francisco.

Daily consumption of walnuts lowers cholesterol level and cardiovascular risk, according to researchers from the Hospital Clinic of Barcelona and Loma Linda University in California.

A study of 49 men and women between the ages of 28 and 72 years was conducted over 12 weeks. During the first 6 weeks, participants followed a cholesterol-lowering Mediterranean diet, which lowered low-density-lipoprotein cholesterol levels significantly. Participants then consumed a similar diet, but with walnuts replacing 35% of the monounsaturated fat for the next 2 weeks.

The walnut diet reduced the total serum cholesterol level by 4.1%, even farther than the Mediterranean diet. Also, low-density-lipoprotein cholesterol was reduced by 5.9% and the lipoprotein(a) level by 6.2%, more than on the Mediterranean diet. All other variables had remained the same; the only variable altered was the change to walnuts for monounsaturated fats.

This study follows an earlier study of Seventh-Day Adventists that showed those who ate nuts of any kind five times a week had half the risk of heart attack than those who ate nuts less than once a week.

The complete study results appear in the April 4 issue of *Annals of Internal Medicine*.

Inhalation of interleukin-2 may arrest the spread of lung metastases in patients who have advanced malignant melanoma, say researchers from the University of Mainz, Germany. During a 6-month trial, interleukin-2, known to boost the body's immune system, was administered to 27 patients whose malignant melanoma had spread to the lungs.

Results showed a complete disappearance of tumors in 5 patients, a partial reduction in 8 patients, an unchanged condition in 5 patients, and continued growth in the remaining patients. Patients who had a limited response to treatment relapsed after discontinuing the drug while those found to be tumor-free remained so the year following treatment.

Avonex (interferon beta-1a) has been shown to help delay the development of clinically definite multiple sclerosis. The Controlled High Risk Subjects Avonex Multiple Sclerosis Prevention Study was undertaken to determine whether Avonex can help in delaying clinically definite multiple sclerosis in high-risk individuals, those who have had a first demyelinating event. Results indicated the benefit of the drug in early treatment, and in response to the positive results, Biogen, Inc will request a broadened prescribing label.

The presence of two demyelinating events, separated by time and location in the

central nervous system, identifies a patient for diagnosis of clinically definite multiple sclerosis.

Results of the study were presented at the 52nd annual meeting of the American Academy of Neurology in San Diego.

Lupus drug candidate LJP 394 shows positive results in patients with lupus in Phase II/III trial, say researchers at La Jolla Pharmaceutical Company who completed an affinity analysis with 89% of the patients indicating high-affinity antibodies to LJP 394 (Toleragen). Within this population, time to renal flare, designated as the primary endpoint, was significantly increased in the drug-treated group compared with the group receiving placebo. Three times as many renal flares occurred in the placebo-treated group as occurred in drug-treated individuals, and, finally, the placebo-treated group received 2.5 times as many treatments with high-dose corticosteroids and cyclophosphamide as patients treated with LJP 394.

La Jolla Pharmaceutical Company refers to five clinical trials that show that patients receiving LJP 394 had reductions in disease-associated antibodies. Initiation of a Phase III trial will occur in the second half of this year.

Potentially modifiable risk factors may be responsible for nearly half of the increased risk of diabetes among African-American women, found researchers at the Johns Hopkins Medical Institutions in Baltimore, Md, who conducted a study. Results indicated that African-Americans generally are at higher risk for diabetes, with African-American men shown to have a 1.5-fold greater risk than white men, and African-American women shown to be 2.5 times more likely to have diabetes than white women.

Although the higher risk for diabetes for African-American women was attributed to risk factors such as poor diet, obesity, and hypertension, those factors did not appear to account for the greater percentage of risk among African-American men.

Although levodopa/carbidopa is the most effective drug treatment for patients with Parkinson's disease, a study has found that by beginning treatment with the dopamine agonist, pramipexole, motor complications associated with Parkinson's disease were delayed.

Researchers at the University of Rochester School of Medicine in New York conducted the study to test whether dopamine agonists might delay associated motor complications because long-term use of levodopa/carbidopa was shown to lead to motor complications, including on-off effects and dyskinesia. Determining the endpoint as the time to any of three motor complications—wearing off, on-off, or dyskinesia—301 patients with early-stage Parkinson's disease were randomly assigned to receive pramipexole plus placebo or levodopa plus placebo.

Pramipexole use was found to decrease the risk for development of dyskinesia and wearing-off effects, with 28% of patients who received pramipexole and 51% of patients who received levodopa reaching the endpoint with differences in development of both dyskinesias and wearing off, but not on-off effects.

The report was presented at the 52nd annual meeting of the American Academy of Neurology.

The Pain Relief Promotion Act of 1999, whose aim is to "promote pain management and palliative care without permitting assisted suicide and euthanasia," passed the United States Senate Judiciary Committee by a vote of 10 to 8 in April.

Opponents of the bill say that it may have the effect of nullifying Oregon's Death with Dignity Act passed in 1997. The bill is also said to have the potential of controlling physicians and their efforts at pain management, as well as shifting authority for determining legitimate medical practice to the federal government. It is not clear when the bill will move to the Senate floor.

Senator Ron Nickles (R-OK) and Representative Henry Hyde (R-IL) sponsored this legislation, which passed the House of Representatives in October. This bill is a new version of the Lethal Drug Abuse Prevention Act, which failed to pass last year.◆