Lowered cholesterol lowers heart disease

After 3,806 middle-aged men with high cholesterol levels made 193,000 clinic visits, gave 341,000 blood samples and had 72,000 electrocardiograms, researchers are now willing to state what they've suspected all along — "the risk of coronary heart disease can be reduced by lowering blood cholesterol."

While the association between high cholesterol and heart disease has long been established, this 10-year study of the effect of a cholesterol-lowering drug is the first proof on a large scale that lowering cholesterol levels will protect against the development of heart disease. The men who lowered their cholesterol levels by 25 percent suffered only half the expected incidence of heart attacks. The effect was graded — the lower the cholesterol, the less likely a heart attack. Study director Basil M. Rifkind of the National Heart, Lung, and Blood Institute (NHLBI) in Bethesda, Md., estimated that going after cholesterol aggressively could eliminate 100,000 of the 500,000 fatal heart attacks in the United States each year.

Over 400,000 men between the ages of 35 and 59 were screened for the study, and those selected were from the group with the top 5 percent of cholesterol levels. Half were instructed to take six packets daily of cholestyramine, a cholesterol-lowering drug, while the other half took a placebo. Both groups were put on a low cholesterol diet — three eggs per week; avoidance of fatty meats; restriction of whole milk, cheese and butter; and use of vegetable instead of animal fats.

The overall cholesterol reduction in the cholestyramine group was 13.4 percent compared to 8.5 percent in the diet-alone group. LDL-cholesterol, thought to be the harmful constituent of cholesterol, dropped 20.3 percent in the treated group and 12.6 percent in the others. With these differences, men on the drug had 19 percent fewer heart attacks and 24 percent fewer fatal heart attacks than the placebo group.

The drug is not a license to grab for the ice cream — it was used in conjunction with diet, it has a not-particularly-pleasant powdery taste and it has to be taken six times a day. At current prices, the continual treatment necessary costs $150 per month. Side effects are apparently not serious — some of the men suffered constipation and heartburn, but they responded to treatment. Other cholesterol-lowering drugs are currently being developed, says Rifkind.

Though the results for the study population were obtained with a cholesterol-lowering drug, the take-home lesson for the general public applies to diet, the researchers say: "The trial's implications ... could and should be extended to other age groups and women and, since cholesterol levels and coronary heart disease risk are continuous variables, to others with more modest elevations of cholesterol levels."

Results of the study, which cost $150 million and involved researchers at NHLBI and 18 institutions throughout the United States, were announced at a press conference last week and in two articles in the Jan. 20 JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION. —*J. Silberner*

License denial: New peril for reactors?

The Nuclear Regulatory Commission (NRC) last week denied an operating license for Commonwealth Edison Co.'s nearly completed Byron unit-1 reactor in Illinois. This action marks the first time that federal regulators have unconditionally withheld such a license. In a 413-page decision, NRC's Atomic Safety and Licensing Board expressed an overwhelming lack of confidence in "quality assurance" programs used to guarantee that the plant met all safety and regulatory requirements.

The action — combined with the just-announced abandoning of a half-finished nuclear plant in Indiana for economic reasons — has sent shudders throughout the ailing commercial nuclear industry, which had been anticipating 1984 would set a record for new plant start-ups. But this unexpected trouble with Byron-1 now casts doubt on the prospects for the 13 other plants that had been expected to receive start-up authorization later this year, because Chicago-based Commonwealth Edison has been building nuclear plants longer, and has constructed more than any other U.S. utility.

NRC's licensing board noted the electrical contractor used on the Byron project "has a long and bad quality assurance record there," and that this alone would be enough to warrant the Byron license denial. Acknowledging this contractor's work has been reinspected, the board added, "we have no confidence in the reinspection program either." The board also noted that the supplier of Byron's safety-related electrical and control equipment has "a fraudulent and ineffective quality assurance program and the Department of Justice is investigating the matter." These were not the only quality-assurance problems the board found.

With more than $2.4 billion invested in the Byron unit-1 and -2 plants, Edison intends to appeal NRC's decision. "Without question we're confident the unit will go on line this year and make electricity," said Edison spokesperson Irene Johnson. This confidence is largely based on a reinspection of the plant conducted with NRC-staff assistance. Reinspection results were turned over to NRC on Jan. 12, too late to affect the next day's ruling. —*J. Raloff*

HHS reports on U.S. health

"Our nation's health is better than ever," said Health and Human Services (HHS) Secretary Margaret M. Heckler. She cited increased longevity and decreased infant mortality rates as prime indicators in her press briefing this week on "Health United States 1983," the federal government's annual health assessment.

But while the report shows health gains for the nation as a whole, gains for blacks and other minorities are not keeping pace, she said. Life expectancy for blacks averaged 69.3 years — six years short of the 75.1 years of life expected for whites. Though the overall U.S. infant mortality rates declined from 14.1 per 1,000 live births in 1977 to 11.2 in 1981 figures, the death rate for black infants remains almost twice as high as for whites.

Though the situation is improving, Heckler said, the disparity represents "a fundamental discrepancy in the quality of life for the American people." In an attempt to better gauge the scope of the problem and identify and extend programs that reduce it, Heckler has designated Thomas E. Malone, deputy director of the National Institutes of Health in Bethesda, Md., as head of a soon-to-be appointed task force on black and minority health.

Highlights of Heckler's report showed:

- Though the general cost of living in the United States, as measured by the Consumer Price Index, increased by a fairly modest 6.1 percent from 1981 to 1982, the increase in health care cost was nearly double that figure, according to the HHS report. U.S. residents spent a total of $322.4 billion on health care in 1982 — the majority of it in hospitals — for an average expenditure of $1,365 per person.
- The use of several high technology diagnostic and therapeutic techniques has continued to increase in the last several years, and may contribute significantly to the increased cost of medical care. For example, from 1979 to 1981 the use of diagnostic ultrasound in hospitalized women increased 91 percent, while the use of computerized axial tomography (CAT scan) as an alternative to conventional X-rays doubled among all hospitalized patients. During the same two years, cardiac catheterization, a tool in both diagnosis and treatment of heart disease, increased 97 percent for men 65 or older and 34 percent for men aged 45 to 64 years, emerging as the most frequent surgical procedure in that age group.
- Despite the increase in health care costs, a fraction of the U.S. citizenry, particularly minorities, has no health insurance coverage at all. Twenty-six percent of Hispanics, 18 percent of blacks and nine percent of whites in the national study had no health coverage. —*D. Franklin*