

BMI, Glucose Tied to Hematopoietic Death

BY JEFF EVANS
Senior Writer

BETHESDA, MD. — High body mass index and high plasma glucose levels after an oral glucose challenge are independently associated with an increased risk of dying of hematopoietic cancer, Dr. Brian Chiu reported at the annual meeting of the American Society of Preventive Oncology.

In some instances, those two factors showed a strong, dose-response relationship in increasing the risk of dying of hematopoietic cancer, particularly non-Hodgkin lymphoma (NHL) or leukemia.

"We are particularly focusing on non-Hodgkin lymphoma because according to Surveillance, Epidemiology, and End Results (SEER) data, the incidence of non-Hodgkin lymphoma in the United States has been increasing dramatically during the past 30 years" from about 10 cases per 100,000 person-years in 1973 to 20 per 100,000 in 2002, said Dr. Chiu of the department of preventive medicine at Northwestern University, Chicago. The increase has occurred in both men and women.

The prevalence of obesity has also increased at the same time, rising by 60% from 1970 to 1990 and by 74% from 1990 to 2002, according to data from the first three National Health and Nutrition Examination Surveys. The prevalence of diagnosed diabetes increased by about 60% during 1990-2004.

The current prospective study involved 35,420 people (average age 40 years) who participated in the Chicago Heart Association Detection Project in Industry during 1967-1973. The study

was originally designed to screen for cardiovascular disease risk factors.

At baseline, participants' height and weight were assessed, as was blood glucose level 1 hour after they received an oral 50-g dose of glucose.

Dr. Chiu found that by the end of 2002, 129 study participants had died of NHL, 151 of leukemia, and 66 of multiple myeloma.

Men in the highest quartile of BMI (28.7 kg/m² or greater) or in the highest quartile of postload plasma glucose (200 mg/dL or greater) were at about 2.5 times greater risk of dying from NHL than were men in the lowest quartiles. The risk was not significant for women in these groups. Both men and women in the highest quartile of BMI also were 2-2.4 times more likely to die from leukemia than were those in the lowest quartile. Women, but not men, in the highest quartile of postload plasma glucose were significantly more likely to die of multiple myeloma than were women in the lowest quartile. The comparisons were adjusted for age, education, smoking status, race, and BMI or postload plasma glucose (depending on the comparison).

Dr. Chiu collected data on participant mortality, but not on the prevalence of hematopoietic cancers at baseline. He excluded people who died of a hematopoietic cancer within the first 5 years of follow-up. Although this methodology might miss some hematopoietic cancer survivors, he suggested that the number of people with such cancers at baseline would be small because the cancers are rare and all of the subjects were in the work force during screening. ■

Thyroidectomy Safer Than Realized for Grave's Disease

BY MARY ANN MOON
Contributing Writer

Total thyroidectomy can be performed more safely than many clinicians realize, and offers more durable results for people with Grave's disease than do antithyroid drugs or radioiodine, according to Dr. Kaare J. Weber of Mount Sinai School of Medicine, New York, and his associates.

The researchers reviewed the records of all 48 patients who underwent total thyroidectomy for Grave's disease at their hospital between 1993 and 2005. All but seven of the patients were women, and the mean age was 40 years. All had typical symptoms including palpitations, eye disturbances, anxiety, weight loss, heat intolerance, and tremor.

Of this group, 24 patients had failed on medical therapy with or without radioiodine. Another 12 had refused radioiodine because of concerns about radiation exposure. The remaining 12 chose surgery for assessment of thyroid nodules that were presumed to be related to their disease.

After thyroidectomy and a mean of 40 months of follow-up, there were no recurrences of hyperthyroidism. In contrast, relapse rates of 20%-75% are cited in the literature for medical therapy, Dr. Weber and his associates said (*Am. J. Surg.* 2006;191:400-5).

Of the 20 patients who had mild or severe ophthalmopathy before surgery, 11

showed marked improvement or resolution of eye disorders and the remaining 9 showed either improvement or stabilization. In contrast, radioiodine treatment has been associated with the onset or exacerbation of ophthalmopathy, they said.

Eight patients (17%) were found to have papillary cancer of the thyroid at surgery. "These patients would not have received ap-

propriate treatment for their coexisting cancer if they were treated only with antithyroid drugs and/or radioiodine," the investigators noted.

No patients suffered permanent laryngeal nerve injury from the procedure. Complications included three cases of transient hypocalcemia and one case of temporary right vocal cord paralysis. Only one patient developed permanent hypoparathyroidism, and that case "followed a previ-

ous failed [thyroid] exploration at another institution," they said.

"Despite today's methods for a safe thyroidectomy, concern over permanent recurrent laryngeal nerve injury and permanent hypoparathyroidism as a result of the hypervascularity of the thyroid gland prevents some physicians from recommending surgical therapy for Grave's disease," Dr. Weber and his associates said.

These results demonstrate that total thyroidectomy now can be performed safely, with little of the morbidity and mortality that occurred when the procedure was first developed years ago.

In addition, thyroidectomy addresses potentially cancerous nodules, as medical and radioiodine therapies do not, they said. ■

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Liver May Independently Drive Cardiovascular Disease, Studies Suggest

BY ROBERT FINN
San Francisco Bureau

SAN FRANCISCO — Recent research indicates that liver disease independently drives cardiovascular disease, Dr. Arun J. Sanyal said at the Third World Congress on Insulin Resistance Syndrome.

This relationship is so striking that Dr. Sanyal maintained, only half in jest, that "the liver is the boss of the heart."

"The chicken-and-egg relationship between insulin resistance and hepatic steatosis can have potential effects at the level of the endothelium, platelet aggregability, and atherosclerosis, all of which combine to produce cardiovascular disease," said Dr. Sanyal of Virginia Commonwealth University, Richmond.

One longitudinal study demonstrated that altered liver enzymes predict the development of metabolic syndrome (*Diabetes* 2005;54:3140-7).

Among 633 subjects who were free of metabolic syndrome at baseline, 127 developed metabolic syndrome within 5 years.

Multivariate logistic regression models adjusting for

age, sex, ethnicity, and alcohol consumption showed that subjects in the upper quartiles of aspartate aminotransferase (AST), alanine aminotransferase (ALT), and alkaline phosphatase (ALK) were at significantly increased risk of incident metabolic syndrome, compared with those in the lowest quartile.

Another study looked at endothelial function in 52 patients with nonalcoholic fatty liver disease (NAFLD) and 28 age- and sex-matched controls (*Hepatology* 2005;42:473-80). Compared with controls, patients with NAFLD had a significantly lower vasodilatory response of the brachial artery in response to ischemia. This response was significantly worse in patients with nonalcoholic steatohepatitis (NASH) than those with pure fatty liver.

In addition, the 10-year risk of coronary events as calculated by the Framingham equation was significantly worse in patients with NAFLD than in controls.

A third, longitudinal, study examined the relationship between gamma-glutamyltransferase (GGT) and incident hypertension (*Hypertension* 2005;46:1186-93). Among 897 patients with normal GGT values, those in the highest quintile of normal were more than twice as

likely to develop hypertension over 6 years than were those in the lowest quintile. The investigators noted that the association between GGT and hypertension was present in both current and noncurrent drinkers, but only if they were above the mean in body mass index, waist circumference, and abdominal height.

This suggests that the association between GGT and hypertension is not due solely to alcohol consumption, and that fatty liver may represent an underlying mechanism of the association.

A fourth study used 4,222 normal subjects without cirrhosis or hepatitis B or C and examined the relationship between hepatic steatosis and carotid plaques (*World J. Gastroenterol.* 2005;11:1848-53).

After adjusting for confounding factors, the investigators determined that individuals with fatty liver had carotid plaques more often than did those without fatty liver. They hypothesized that this phenomenon may be explained by metabolic changes from nonalcoholic fatty liver disease.

Despite this accumulating evidence, Dr. Sanyal called for more research on the underlying mechanisms of the relationship between fatty liver, metabolic syndrome, and cardiovascular disease.

"This will give us terrific targets to identify new ways of addressing this atherosclerotic disease in patients who also have fatty liver disease," he said. ■



This will give us new ways of addressing atherosclerotic disease in patients who also have a fatty liver.

DR. SANYAL