

Stroke incidence declines among Swedish diabetics

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The incidence of strokes among diabetics in Northern Sweden declined between 1985 and 2003, according to a population-based study published in *Stroke: Journal of the American Heart Association*.

Researchers also found that survival rates improved leading to a rapid decline in the number of fatal events among diabetic people.

"Prior research has suggested that the trend in strokes was increasing, but our study shows declining incidence in stroke for non-diabetic men, both for first and recurrent stroke, and in recurrent strokes in non-diabetic women," said Mats Eliasson, M.D., Ph.D., co-author of the study and a senior lecturer in the Department of Public Health and Clinical Medicine at Umeå University and the Department of Medicine at Sunderby Hospital in Luleå, Sweden.

The reasons for the overall decline of strokes among diabetics are uncertain. The decline may be the result of more intensive treatment of hypertension in diabetics and smoking cessation and cholesterol-lowering efforts, Eliasson said.

"The impressive decline in smoking and large decreases in cholesterol levels, and to a lesser degree blood pressure levels, in the population of northern Sweden may have contributed to the declining incidence in both diabetic and non-diabetic subjects over the study period," he said. "On the other hand, we found more recurrent events among diabetic subjects than non-diabetic subjects, indicating a need for even more

intensive secondary prevention among diabetic patients."

Researchers examined data on 15,382 stroke patients, 35- to 74-years-old, who were part of the Northern Sweden MONICA (Multinational Monitoring of Trends and Determinants in Cardiovascular Disease) Project Stroke Registry, an international collaboration sponsored by the World Health Organization.

Over the 19 years, 11,605 subjects suffered a first stroke and 3,777 had a recurrent stroke. Twenty-two percent of the men and women had previously been diagnosed with diabetes. Although the total number of strokes per 100,000 in diabetics was significantly greater than in non-diabetics, researchers found no significant difference in the rate of decline over time and death rates between the two groups.

Among the major findings:

- Diabetic women had a yearly decrease in incidence of first-ever stroke of 1.5 percent, while incidence remained unchanged over the observation period for non-diabetic women.
- Non-diabetic men had a significant declining trend in incidence rates of first-ever stroke of .8 percent per year, while there was an insignificant decline in diabetic men.
- All groups, except diabetic women with first-ever stroke, had a significant decline in deaths over time.
- Incidence rates per 100,000 of all strokes among male diabetics fell from 1,961 to 1,815.
- The incidence rates per 100,000 of all stroke in women fell from 1,921 to 1,176.
- In non-diabetics, the incidence rates per 100,000 fell from 358 for men and 204 for women to 284 and 183, respectively.
- For recurrent strokes, the decline was significant for all but diabetic men, with the greatest decline (5.4 percent a year) in diabetic women.

Non-diabetic women showed a 2.7 percent yearly drop. Researchers found no apparent explanation for the gender differences. An earlier study in the United States didn't find gender differences in care or treatment adherence between male and female diabetics.

"The fact that patients with diabetes, to a great extent, had favorable time trends similar to those of non-diabetics is particularly interesting considering that diabetic patients with heart attack, from the same population, did not show any positive trends over the 19-year study," Eliasson said.

Control of hypertension may have a greater impact in stroke than in coronary heart disease, he said.

Source: American Heart Association

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