

Heart Disease and Stroke in Eeyouch who have Diabetes

Summary of an oral presentation and poster presentation by Céline Plante, Claudia Blais, Isabelle Larocque, Louis Rochette, Pierre Lejeune, David Dannenbaum, and Jill Elaine Torrie given at Vascular 2013 conference (Montreal, October 16-20th 2013).

BACKGROUND

Eeyou Istchee has nine communities and 15,000 people (in 2008) – 95% of them Cree.

Diabetes rates are high in Eeyouch: in 2009, one adult in five had diabetes. We know that these rates are much higher than in southern Canada, and that the gap is especially wide in younger adults. And we know that having diabetes raises a person's risk of heart disease and stroke. But these problems are often treated at hospitals outside Eeyou Istchee. So the Cree Health Board does not know for sure how many Cree with diabetes have heart disease or stroke. And it doesn't know what health services Eeyouch with diabetes are using outside the region.

OBJECTIVE

This study looked at how many of the Eeyouch with diabetes had heart diseases or stroke, as measured by hospital records.

METHODS

The study team obtained permission to send the medical card numbers of people in Eeyou Istchee with diabetes to the RAMQ. The RAMQ is the very confidential government body which gives out these cards. The RAMQ then linked those numbers to Quebec's list of insured individuals over the 13 years from 1996 to March 31, 2009. They were able to find people's numbers 94% of the time. Using anonymized data sent by RAMQ, the study team checked how many of Cree living with diabetes 20 years or older had any hospital separation records indicating a diagnosis of:

- Ischemic heart disease
- Stroke
- Heart failure

WHAT THE STUDY FOUND

About the Eeyouch who have diabetes

First, the team looked at the characteristics of the 1930 individuals with diabetes in Eeyou Istchee who make up the Cree Diabetes Information System (CDIS) and who were successfully linked to the list of insured individuals. They found that more women than men have diabetes, and that roughly half the people on the Register are under age 50. More than 60% of people on the CDIS have had diabetes for less than 10 years.

They also noted that Cree are getting diabetes at younger ages than other Quebecers—about 20 years earlier.

Characteristics of Cree individuals with diabetes in 2008-2009		
Sex	Women	60%
	Men	40%
Age group	Under 50	49%
	50-59 years	23%
	60-69 years	18%
	70+ years	10%
Type of diabetes	Type 1	0.3%
	Type 2	99.7%
Duration of diabetes (missing for 2 people)	Less than 5 years	34%
	5-9 years	28%
	10-14 years	18%
	15-19 years	11%
	20+ years	9%

About heart disease and stroke in Eeyouch with diabetes

The CDIS tries to record when a person has heart disease or stroke. But this study showed that the CDIS misses a lot of cases. By linking to the hospital database, the team found 88% more cases of ischemic heart disease, and 45% more cases of stroke. This tells us that, to have complete data, we need to make a habit of linking the information in the CDIS with records of hospitalization.

The results for specific types of disease were as follows:

Ischemic heart disease

The study found that, according to hospital records, 15% of Cree with diabetes have ischemic heart disease. The percentage of ischemic heart disease is higher among male and goes up with age and diabetes duration. To untangle the different factors (sex, age and diabetes duration), the researchers followed people who had been diagnosed with diabetes between 1996 and 2009. In this group, ten years following diabetes, rates of ischemic heart disease were 15% in those who had been diagnosed with diabetes at ages 40-59, but much higher (44%) in people who had been diagnosed at age 60 or older.

Stroke

One out of 20 Eeyouch with diabetes have had a stroke, as indicated by hospital records. This is slightly lower than what is reported for other First Nation communities in Canada. Men were 2.5 times more likely than women to have suffered a stroke.

Heart failure

One out of 12 Eeyouch with diabetes had heart failure. The proportion of individuals with heart failure went up with age. In people under 60, 1% had heart failure; but in those 80 and over, it was 30%.

As compared to other Quebecers with diabetes, younger Cree (under 60) were less likely than average to have heart failure, but older Cree were more likely to have it.

CONCLUSION

The study concluded that, even at younger ages, Cree with diabetes have a serious risk of heart disease and stroke. To reduce this risk, we need to do more to help people prevent and manage diabetes.