Remnant cholesterol and risk of ischemic stroke in 112,512 individuals from the general population

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Figure 1: 102,964 individuals from the Copenhagen General Population Study 2003-2015 were included in a prospective observational association study. Individuals were followed for up to 14 years, during which time 2,488 were diagnosed with an ischemic stroke. Using Cox regression restricted cubic splines, higher remnant cholesterol concentrations were associated with higher ischemic stroke risk.

Copenhagen General Population Study (N = 102,964)

Copenhagen City Heart Study (N = 9,548)

Figure 3: In the Copenhagen General Population Study, cumulative incidence of ischemic stroke at age 80 ranged from 7.3% for individuals with remnant cholesterol <0.5mmol/L (19mg/dL) to 11.5% for individuals with remnant cholesterol ≥1.5mmol/L (58mg/dL).

High remnant cholesterol concentrations were associated with higher risk of ischemic stroke. Results were independently confirmed in 9,548 individuals from the Copenhagen City Heart Study 1991-94 examination with 983 ischemic strokes developed during up to 26 years of follow-up.

Conclusion

High remnant cholesterol concentrations were associated with higher risk of ischemic stroke. This indicates that randomized clinical trials with remnant cholesterol lowering in individuals with high concentrations, with the aim of preventing ischemic strokes, are needed.