

Cardiovascular disease

Younger age at onset of overweight associated with higher risk of hypertension

Becoming overweight before the age of 60 was associated with a raised risk of hypertension, in a prospective cohort study. The risk was greatest in those who became overweight between the ages of 18 and 39.

The authors analysed data, between 2006 and 2015, on 4,742 participants with new-onset overweight (BMI ≥ 25) in the ongoing Kailuan study.

This study is a community-based, prospective cohort study to assess the determinants and progression of cardiovascular disease over time in 101,510 adults who were 18-98 years old between 2006 and 2007.

Participants were recruited from the employee and retired populations of the Kailuan Group, a coal mining company in Tangshan, China. They were followed up every two years from the beginning of the study by health assessments and questionnaires on demographic features, lifestyle factors and medical and other health-related information.

For this specific analysis, 4,742 age- and sex-matched controls with normal weight between 2006 and 2015 were selected randomly from the same cohort. The average age in each group was 48.6 years and 68% were men. Participants were compared with respect to the subsequent risk of hypertension according to the age of becoming overweight; 18-39, 40-49, 50-59 and ≥ 60 years.

Over a mean follow-up period of 5.17 years, 1,642 overweight

participants (34.6%) and 1,293 normal-weight controls (27.3%) were subsequently diagnosed with hypertension. The median age at becoming overweight was 49.1 years.

Compared with normal-weight controls, the multivariable-adjusted hazard ratio (HR) for hypertension among participants who became overweight at different ages was as follows:

- 18-39 years: HR 1.38 (95% CI: 1.11- 1.72)
- 40-49 years: HR 1.27 (95% CI: 1.09-1.49)
- 50-59 years: HR 1.23 (95% CI: 1.09-1.38)
- ≥ 60 years: HR 1.14 (95% CI: 0.99-1.32)

Becoming overweight in each age range was significantly associated with an increased risk of hypertension, except for the group with onset at 60 years of age or older.

The authors conclude that becoming overweight at a younger age was associated with a significantly increased risk of hypertension, with the highest relative risk among participants who became overweight at 18-39 years of age.

They state: 'Considering the age at onset of overweight may contribute to risk stratification of hypertension of overweight adults in clinical practice. Greater focus on weight control may be warranted in individuals with early-onset overweight to prevent hypertension.'

This study demonstrates the importance of instigating positive lifestyle changes as early as possible to prevent the cumulative adverse effects of being overweight over time.

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Li W, Fang W, Huang Z et al. Association between age at onset of overweight and risk of hypertension across adulthood. *Heart* 2022;108:683-88