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Author(s) Krebs, Andreas; Schmidt-Trucksäss, Arno; Alt, Janine; Doerfer, Jürgen; Krebs, Kristin; Winkler, Karl; Schwab, Karl Otfried

Author(s) at UniBasel [Schmidt-Trucksäss, Arno](#) ;

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This study aimed to investigate the synergistic effects of elevated systolic blood pressure (SBP) and hypercholesterolemia on carotid intima-media thickness (cIMT). For this study, 60 children with hypercholesterolemia and 40 healthy control children were divided into four subgroups: hypercholesterolemic children with normal (<90th percentile) or elevated (= 90th percentile) SBP and control children with normal or elevated SBP. The highest mean and maximal cIMT values were found in the hypercholesterolemic children with elevated SBP and were significantly different from those of all the other groups. The synergistic effects of elevated SBP and hypercholesterolemia lead to a significant increase in cIMT as a subclinical sign of early atherosclerosis.

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