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Association between colorectal adenoma and hand grip strength

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Only a few studies suggest an association between colorectal adenoma and obesity and their results remain controversial. Previous studies are primarily focused on obesity caused by increasing fat. However, wasting of muscle also causes obesity. The role of decreased muscle mass and strength in the development of colorectal polyps is yet unknown. We propose that not only an increase in fat, but also decreased muscle mass and/or strength can affect the development of colorectal adenomas. We investigated the association between colorectal adenomas and hand grip strength, which is an easy way to assess muscle condition. Our cross-sectional study included 957 subjects who underwent colonoscopy at Jeju National University Hospital between 2015 and 2016. Grip strength was measured twice on the left and right hand alternately, and the grip strength was evaluated as the maximum value of the arm used. The adenoma group was classified as those showing histologically confirmed colorectal adenoma while the adenoma free group (control group) included those with an unremarkable abnormal finding on colonoscopy, including colitis and hyperplastic polyps. Colorectal adenomas were found in 249 men (42.6%) and 85 women (22.8%). In men, hand grip strength was 42.48 kg in the control group, 41.12 kg in the adenoma group and in women 23.87 kg in the control group and 22.77 kg in the adenoma. Additionally, there was no significant difference in body fat percentage between the control and adenoma groups when assessed using bioelectric resistance measurement in both sexes. After adjusting for age, smoking status, and exercise frequency, log-transformed grip strength and colorectal adenoma were found to show no significant correlation. The odds ratio (OR) was 1.24 [95% confidence interval (CI) 0.60-2.58, P=0.560] in men and 1.05 (95% CI 0.27-4.03, P=0.946) in women. There was no significant relationship noted between hand grip strength and colorectal adenoma.

Biography

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