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Serum Lipid Levels and the Risk of Gallbladder Stones: A Population-based Study in China

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Introduction : Gallstones are the cause of a majority of biliary tract discomfort. Although many community-based studies have addressed the risk factors for gallstone disease (GSD), little is known about GSD prevalence and risk factors in Chinese populations.

Methods : From January 2014 to January 2015, participants (N = 216,161) were recruited by Meinian Onehealth Healthcare (Group) Co., Ltd. They received a physical examination, and GSD was determined by ultrasound.

Results : The prevalence of GSD was 8.1%. Risks of GSD were similar between males and females in all age groups. Risk factors for gallstones include body mass index, waist circumference, waist-to-hip ratio, and physical activity, as well as biological factors such as age, sex, and elevated blood lipid levels. Serum lipid levels of GSD were statistically different from controls in total cholesterol (TC), triglycerides (TG), high-density lipoprotein cholesterol (H-DL), low-density lipoprotein cholesterol (LDL), and apolipoprotein B (APOB). Furthermore, TC > 5.00 mmol/L, TG > 1.39 mmol/L, HDL < 1.19 mmol/L, LDL > 3.04 mmol/L, and APOB > 0.97 mmol/L were risk factors for gallstones.

Conclusions : Serum lipid levels are associated with GSD. TC, TG, LDL, and APOB are risk factors, while HDL is a protective factor.

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