

Is There a Link Between BMI and Bile Duct Stones?

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Introduction

Obesity has risen in the last four decades, and the United Nations declared it a worldwide pandemic in 2020. Obese patients are more likely to develop Covid-19 problems, which can lead to heart disease, stroke, cancer, diabetes, fatty liver disease, and chronic renal disease. Obesity is caused by a combination of factors including diet, lack of exercise, social environment, and heredity.

Obesity is also linked to the use of ultra-processed foods, fast-food restaurant meals, soft beverages, and industrially processed convenience foods that are high in salt, sugar, fat, and chemicals. Obesity is a major risk factor for stone formation in the body, in addition to having a negative impact on respiratory and cardiac disorders. On this World Digestive Day, let's focus on issues like gallstones, which are a result of obesity, given the stunning facts and figures.

Relationship between BMI and Bile Duct Stones

BMI is a measure of body fat that applies to people and varies from underweight to obesity. It is defined as weight in kilogrammes divided by square of height in centimetres. In India, more than 135 million people are obese (BMI > 30 kg/m²). The risk of non-cardiac disorders has increased dramatically as BMI has increased.

Gallstones are formed when people consume a high-fat diet, have a sedentary lifestyle, and are obese. Gallstones lead to bile duct stones. Gallstones are formed when cholesterol, calcium salts, and bilirubin collect in the gallbladder. The gallbladder stores digesting fluid called bile, which is then transported through the bile duct into the small intestine. Gallbladder stones can sometimes fall into the bile duct and become lodged. The stones in the common bile duct (CBD) are known as CBD stones.

A bile duct stone can cause discomfort, clog the duct, and harm the liver, pancreas, and digestive tract. Pain in the upper abdomen, back or shoulder, and around the ribcage is common in those who have bile duct stones. Some people get jaundice, which manifests as yellow skin and eyes, as well as a fever and/or chills.

CBD stones can cause pancreatitis in a subgroup of individuals, which is a significant medical emergency that can result in death in 5-10% of cases if not treated promptly. When such symptoms appear, it is critical to seek medical help as soon as possible and to follow through with the prescribed treatment.

Advanced Technologies for the Treatment of Bile Duct Stones

Medical history, physical examination of the belly, blood tests, and imaging tests such as abdominal ultrasonography can all help the doctor confirm the diagnosis. Endoscopic Ultrasound (EUS) or MRCP have established as the modalities of choice in cases of diagnostic ambiguity. CBD stones are treated with a specialized endoscopic surgery known as ERCP (Endoscopic retrograde cholangiopancreatography). During this treatment, a dye is put into the bile duct to enable clear sight for locating bile duct stones that are causing the obstruction, which are then removed by making a small incision in an area called the papilla

in the upper section of the small intestine.

For decades, ERCP has been used to diagnose and treat bile duct stones. However, technological advancements have reshaped healthcare in India today. Cholangioscopy is a process that allows for faster and more precise treatment of difficult-to-remove CBD stones, as well as a reduction in the risk of recurrent treatments and an improved quality of life for patients.

The procedure is used to treat bile duct stones in elderly people who cannot be treated with standard methods. To disintegrate stones, a small straw-like tube with a camera and light at the end is utilised. The doctor uses a tiny probe attached to the tube to burst the stone while watching it on a screen.

Obesity Reduction to Prevent Bile Duct Stones

While no one can completely eliminate gallbladder disorders, people can take steps to lower their chance of acquiring stones and the symptoms and difficulties that come with them. Overweight and obesity must be avoided in order to avoid gallbladder or bile duct stones. Obesity can be avoided by eating healthier meals and exercising regularly. Limiting sugar and overall fat intake, increasing eating of vegetables, fruits, grains, and nuts, and engaging in physical activity for at least 60 minutes per day are all options.

Although a change in lifestyle is the most effective way to lose weight, emerging endoscopic methods such as the Intra-Gastric Balloon and Endoscopic Sleeve Gastroplasty are fresh additions to a gastroenterologist's toolbox for fighting obesity. Women and persons over 40, obesity, and a family history of stones, according to the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK), are more likely to develop gallstones or bile duct stones. Gallbladder disorders are now usually easily handled in competent hands. The most effective way to deal with stones is to raise knowledge about the cause and treatment choices available.

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