Lap-band weight-loss surgery can reverse metabolic syndrome in obese teens

July 1 2009

A new study of obese adolescents has shown that laparoscopic gastric banding surgery -- the "Lap-Band" procedure -- not only helps them achieve significant weight loss but can also improve and even reverse metabolic syndrome, reducing their risk for cardiovascular disease and diabetes.

Metabolic syndrome is defined as a cluster of risk factors -- high blood pressure; low levels of HDL or "good" cholesterol; excessive abdominal fat; and elevated levels of blood sugar, C-reactive protein and triglycerides -- that increase a person's chances of developing cardiovascular disease or diabetes later in life. The single biggest risk factor is obesity, and metabolic syndrome usually improves when a person loses weight.

The study was led by Drs. Ilene Fennoy, Jeffrey Zitsman and colleagues at NewYork-Presbyterian Morgan Stanley Children's Hospital and Columbia University Medical Center and presented at the annual Endocrine Society meeting in Washington, D.C.

"An estimated 17 percent of all American adolescents are obese, and increasing numbers of them also have metabolic syndrome," says Dr. Fennoy, a pediatric endocrinologist at NewYork-Presbyterian Morgan Stanley Children's Hospital, clinical professor of pediatrics at the Columbia University College of Physicians and Surgeons and co-author of the study. "Until recently, there have been few treatments capable of helping these young patients lose weight, much less improving their

lifelong health prospects. The Lap-Band may well be a useful intervention for tackling teen obesity -- which is why it is so important to investigate the procedure's safety and efficacy in this growing population."

In the new study, Dr. Fennoy and her colleagues followed 24 morbidly obese adolescents between the ages of 14 and 17 who underwent the Lap-Band procedure. The study participants either had a BMI of greater than 40 or greater than 35 if already suffering from diabetes or obesity-related illnesses.

Six months after surgery, they noted a significant drop in participants' BMI, waist circumference, and blood levels of C-reactive protein. These indicators continued to improve among the 12 patients being followed up at the one-year point.

Other measures of metabolic syndrome such as blood lipid and sugar levels, the authors reported, came down quickly in the first six months, with "less dramatic" changes seen one year after surgery.

"Of all the bariatric procedures," she says, "the Lap-Band is the most benign, with complication rates of less than 1 percent." The device, inserted via minimally invasive laparoscopic surgery, consists of a simple band to make the stomach smaller and a balloon that can be decompressed when necessary, she explains.

Although it is technically reversible, the procedure should be considered a long-term solution for extreme and intractable obesity.

The Lap-Band is the favored bariatric procedure in Europe, while in the U.S., gastric bypass has been the preferred approach. At present, NewYork-Presbyterian Morgan Stanley Children's Hospital/Columbia University Medical Center is one of a few medical centers offering the

Lap-Band option in this country.

The Lap-Band procedure, an approved treatment for adults with extreme obesity, has not yet been thoroughly studied in adolescents. Larger, multicenter studies with longer follow-up periods will be needed, Dr. Fennoy says, to validate the findings of the current study.

Source: Columbia University Medical Center (news : web)