



Bariatric Surgery @ AIIMS

Towards a Healthier Nation

Newsletter

Volume 5, November 2021





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Bariatric Surgery @ AIIMS – Towards a Healthier Nation

Newsletter: Volume 5, November 2021

Bariatric Surgery- Overcoming Challenges in COVID and Post COVID Era

Dear Friends,

Greetings from Team Bariatric Surgery, AIIMS and Foundation for Obesity Research and Metabolic Surgery (FORMS).

It has been a challenging period for the entire mankind due to the ongoing COVID pandemic over last 2 years. The prolonged lockdown has taken a heavy toll on physical and mental health of patients with obesity. The patients waiting for weight loss surgery had to suffer as elective surgeries were halted. They remained prone to developing a more severe COVID infection and were more likely to be hospitalized and put on respiratory support. Patients who had already undergone bariatric surgery also suffered as like others they could not go out for walks and outdoor exercises. Many of them regained weight. However, the severity of COVID was less in those who had substantial weight loss.



At AIIMS, we intensified efforts to support our patients. The follow-up bariatric surgery clinic was continued using Tele-consultation and video conferencing. Attempt was made to contact each and every patient on our follow-up and discuss their problems. A 24 hour helpline number was provided to deal with any emergency situations. The team worked hard to support the patients in every possible manner. Besides, online patient support group meetings were organized. Importance of the dietary discipline and exercise was emphasized with the help of our dietitians and physical trainers. A yoga teacher was also deputed to demonstrate yoga and indoor exercises.

A lot has happened since our last newsletter in December 2017. Prior to the pandemic, the 2nd National CME on Bariatric Surgery- BARIME was organized for post-graduates and young surgeons in February 2019. For the first time, a hands on Training course on Cadavers was organized as a part of this event. BARICON 2019- International conference on Bariatric and Metabolic surgery was organized in mid November 2019. It was a highly successful, 4 day marathon event starting with a Cadaver course on bariatric surgery followed by live operative surgery workshop on next day. The last two days were dedicated to scientific discussions, lectures and debates. More than 10 renowned International faculty from all across the globe participated in the deliberations.

Our team never stopped working despite their duties in the COVID wards. More than 20 research papers on bariatric surgery were published in reputed national and International Journals during this period by us. We also started an ICMR funded study to identify factors affecting weight loss after bariatric surgery including the dietary and psychological factors. Most of our research has been covered by media to create awareness about the benefits of bariatric surgery.

There is always light at end of the tunnel. As the second wave has abated, there has been a rapid resumption of medical services thanks to a highly successful mass vaccination program of the government. At AIIMS, we are seeing an increasing number of patients who want an early bariatric surgery. With robust COVID protocols in place and a cautious approach, bariatric surgeries have kickstarted again as we endeavor to provide high quality care to our patients who are in desperate need of weight loss surgery.

Prof. Sandeep Aggarwal,
Department of Surgical Disciplines, AIIMS New Delhi

How we dealt with the Pandemic at AIIMS

Tele-consultation & follow-up

With the onset of the pandemic and cessation of physical OPD visits, we continued to provide our services via tele-consultation, complete with dedicated mobile and landline contact numbers. Special attention was paid to educate our patients about the symptoms of COVID-19 and the safety measures to prevent the infection.



Awareness about vaccination and lifestyle

Patients were strongly advised to get vaccinated with any of the available vaccines- Covaxin, Covishield, Sputnik V. We also educated our patients to monitor their co-morbid conditions like hypertension, diabetes and OSA, and to seek help in case of any abnormality. Additionally, they were advised to continue with their routine exercises (indoors) and to watch for weight regain.

Further awareness: Written education (in Hindi & English)

Educative documents were issued to patients, which highlighted the importance of diet and dietary supplements, routine exercise, yoga and meditation, avoidance of stress, adequate sleep as well as the importance of regular follow up. We also stressed on the importance of healthy diet and lifestyle during COVID wave to avoid weight gain.

"बेरिएटिक सर्जरी मरीजों के लिए संदेश"



प्रिय मित्रों,

जैसा कि आप जानते हैं COVID 19 के कारण विश्व एक भयानक संकट से गुजर रहा है, इसलिए AIIMS सहित कई अस्पतालों ने ओपीडी और अन्य सेवाओं को बंद कर दिया है। मुझे आशा है कि आप अपना पर्याप्त देखभाल कर रहे होंगे और सामाजिक दूरी बनाये रखने की सलाह का पालन कर रहे होंगे। आपके लिए सभी सरकारी दिशानिर्देशों का कड़ाई से पालन करना अत्यंत महत्वपूर्ण है क्योंकि यह दिखाया गया है कि मोटे व्यक्तियों के बीच COVID 19 अधिक गंभीर है। मैं आपको अच्छे स्वास्थ्य और अपने वजन कम करने के लिए निम्नलिखित महत्वपूर्ण बिंदुओं के बारे में याद दिलाने का अवसर लेता हूँ।

व्यायाम:- मुझे पता है कि मैं राष्ट्रीय लॉकडाउन के इस कठिन समय में, आपके लिए टहलने या दौड़ने के लिए बाहर जाना असंभव होगा। इससे आपका वजन बढ़ सकता है या आगे वजन घटाने में रुकावट हो सकता है। वजन घटाने और इसके रखरखाव के लिए एक घंटे का नियमित व्यायाम बेहद महत्वपूर्ण है। यह मांसपेशियों और हड्डियों के स्वास्थ्य के लिए भी अत्यंत महत्वपूर्ण है। इसलिए मैं आपको अपने घर पर योग, ट्रेडमिल (Treadmill) आदि व्यायाम करने की दृढ़ता से सलाह देता हूँ। विभिन्न तरह के मुक्त ऑनलाइन प्लेटफॉर्म उपलब्ध हैं जो आपको अभ्यास करने में आपकी सहायता करते हैं। श्रीमती रचना, जो की हमारे बेरिएटिक समन्वयक (co-ordinator) हैं, आपको वो मार्गदर्शन करेगी और मिस अनामिका से जुड़ने में मदद करेगी, जो हमारे कार्यक्रम से जुड़ी एक प्रतिष्ठित शारीरिक प्रशिक्षक (physical trainer) हैं जो निःशुल्क स्वैच्छिक प्रशिक्षण सेवाएँ



आपातकालीन परामर्श,

मैं और मेरी टीम के सदस्य किसी भी जरूरी / अर्ध-तत्काल परामर्श के लिए उपलब्ध हैं। प्राथमिक संपर्क हमारे डॉक्टर -> 1. डॉ आदित्य बक्शी और 2. डॉ अमरदीप राज हैं। यदि आप किसी कारण से कॉल के माध्यम से संपर्क नहीं कर सकते हैं, तो कृपया व्हाट्सएप करें। जब तक जरूरी न हो, विषम समय (odd hours) पर कॉल करने से बचें। एम्स में इमरजेंसी हर समय खुला रहता है और अगर बहुत जरूरी है तो आप वहां आ सकते हैं, लेकिन हम आपसे अनुरोध करेंगे कि अपने घर से चलने से पहले हमें कॉल करें एवं सूचित करें।

आपातकालीन संपर्क नंबर (24 X 7)

डॉ आदित्य बक्शी - 09830812905 डॉ अमरदीप राज --08920891044

नियमित पूछताछ :-

नियमित पूछताछ के लिए सुबह 10 से शाम 6 बजे के दौरान ऊपर के नंबर पर प्रयास करें। सामान्य पूछताछ के लिए आप श्रीमती रचना चौधरी को 9810834840 पर (कार्यदिवसों के दिन सुबह 10 बजे से 6 बजे तक) कॉल कर सकते हैं। ऊपर दिए गए ई-मेल पते पर ई-मेल से संवाद (conversation) आदान प्रदान करना पसंद करेंगे। कृपया मुझे ई-मेल की प्रतिलिपि sandeep_aiims@yahoo.co.in और श्रीमती रचना पर rachna_primex@yahoo.co.in पर भी भेज दें। मैं और मेरी टीम के सदस्य आपके अच्छे स्वास्थ्य और पर्याप्त वजन घटाने की कामना करते हैं। घर पर रहें, सुरक्षित रहें और सार्वभौमिक स्वास्थ्य सुनिश्चित करने के इस प्रयास में एकजुट रहें। हमें यकीन है कि हम इस संकट से काफी मजबूत होकर उभरेंगे।

खयाल रखना

डॉ संदीप अग्रवाल।

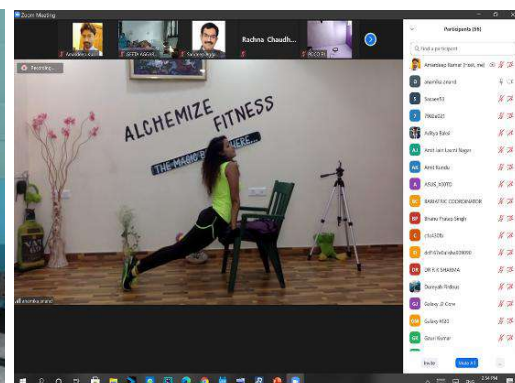
FORMS contribution in the fight against COVID-19



Prof Sandeep Aggarwal and Dr Hemanga K Bhattacharjee donating PPEs to Dr D.K Sharma, MS, AIIMS on behalf of Foundation of Obesity Research and Metabolic Surgery (FORMS)

Regular Bariatric Surgery Patient Support Group Meetings

Owing to the restrictions due to COVID-19 pandemic, the 4th bariatric surgery patient support group meeting was held online this year on 5th August, using the Zoom platform. We were pleased to have a huge participation of our operated patients. The event was supervised by Prof. Sandeep Aggarwal with special lectures on management of co-morbidities, awareness on COVID-19 infection, dietary concerns of the patients and post-bariatric aesthetic surgery.



Resumption after the 2nd COVID wave

We at AIIMS, Delhi are on the path to resumption of our full services, with credits to the ongoing aggressive vaccination drive along with continuous screening and testing for COVID-19. However, with the fear of an impending third wave of COVID doing the rounds, we have experienced an increased foot-fall in our OPD over the last few weeks with patients demanding an early surgery fearing a poor outcome.

Surge in demand for weight-loss surgeries at AIIMS

Durgesh Nandan Jha
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New Delhi: After a brief lull, the demand for weight-loss surgery is on the rise again. At AIIMS, doctors say they have been getting 8-10 such patients every week.

"This is almost 1.5 times the number we were seeing before the Covid-19 pandemic," said Dr Sandeep Aggarwal, in-charge of bariatric or weight-loss surgery at AIIMS, adding that almost all patients asking

for the surgery needed it.

Aggarwal said, "All of them had Body Mass Index (BMI) of more than 35 with obesity-associated diseases like diabetes mellitus, sleep apnea and fatty liver. These patients are worked up comprehensively and prepared for surgery."

Weight-loss surgery is suggested when other measures to reduce weight, like exercise, diet management and treatment of underlying illness that may be causing excessive weight gain, fail to yield the

IN-CHARGE OF BARIATRIC SURGERY AT AIIMS SAYS

Now, people come all prepared for weight-loss surgery. They are scared that being overweight could put them at extra risk of developing complications if they get infected with Covid-19

desired result, say experts.

"Earlier, many patients would come for weight-loss surgery but they always wanted to take time to decide on getting it done. Now, people come all prepared for it. They are scared that being

overweight could put them at extra risk of developing complications if they get infected with Covid-19," said Aggarwal.

Centre for Disease Control and Prevention (CDC) of the US says obesity triples the risk

of hospitalisation due to Covid-19. "Obesity is linked to impaired immune function. It also decreases lung capacity and reserve and can make ventilation more difficult," it adds.

A study published in The Lancet Diabetes and Endocrinology Journal, which is based on more than 6.9 million people living in England and includes data from over 20,000 Covid-19 patients who were hospitalised or died during the first wave, found that the risk of worse outcomes

from the disease start rising in people with a BMI of above 23kg/m², which is considered to be in the healthy range.

"Risks of hospitalisation were 5% higher for each one-unit increase in BMI and the risk of ICU admission was 10% higher. People who were underweight (BMI less than 18.5) also experienced worse outcomes from Covid-19," the authors noted. The effect of excess weight on the risk of severe Covid-19 was greatest in people aged 20 to 39 years and decreased after age 60.

Timely Bariatric surgery in COVID-19 Pandemic

COVID pandemic had a great impact on the health care system and the patients were affected the most. A particular group which were disproportionately affected by the pandemic are morbidly obese patients. Morbidly obese patients develop a severe form of the disease requiring hospitalization, oxygen therapy, ICU stay and occasionally ventilator support. The reasons behind why they are selectively affected are numerous - ranging from poor lung function to low immunity. Co-existence of other diseases like diabetes, hypertension and high cholesterol levels with obesity seems to only exaggerate the situation. Studies have shown that a majority of these individuals find it tedious to lose weight despite strenuous exercise and diet control. In these patients, bariatric surgery is the recommended treatment.

In an ongoing study being conducted at All India Institute of Medical Sciences, New Delhi, it has been found that patients who have undergone bariatric surgery have benefited in terms of weight loss as well as an increased resistance to COVID infection. Patients who underwent surgery developed only a mild form of infection as compared to their counterparts who did not undergo the surgery. The requirement of hospitalization and oxygen therapy was increased almost 5-fold in morbidly obese patients who did not undergo the surgery. The requirement of ICU stay and ventilator support was also higher in the above-mentioned group. Morbid obesity is associated with comorbidities including Diabetes Mellitus, hypertension, sleep apnea, dyslipidemia to name a few. Patients with these comorbidities have a worse prognosis if they suffer from COVID infection. Bariatric surgery results in resolution of these comorbidities apart from weight loss. Patients can have a far less morbidity from COVID infection in future. This may be the best time to get bariatric surgery done when the COVID curve is on the downfall or has plateaued.

Manav Manohar
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Society recommendations during COVID wave



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ORIGINAL CONTRIBUTIONS

Safety and Efficacy of Bariatric Surgery in Advanced Liver Fibrosis

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Abstract There is limited data on the safety and efficacy of metabolic and bariatric (MBS) surgery in patients with advanced liver fibrosis.

Methods This is a retrospective analysis of data of patients with advanced liver fibrosis undergoing MBS at a tertiary care center. Weight loss and complication rates were analyzed. Preoperative fibroelasticity and liver biopsy findings 1 year after surgery were compared with baseline.

Results Twenty-two patients had cirrhosis and 16 had stage 3 fibrosis. Of these, 20 had high A. Majority (79%) underwent sleeve gastrectomy. Mean excess BMI loss was 45.6 ± 18.9%. There were no leaks or 30-day mortality. One patient with cirrhosis had mortality due to liver decompensation. Preoperative and postoperative median LBM were 15.2 kg and 14.6 kg, respectively (OR = 24.1 ± 1.9 and 10.9 ± 0.9 (OR = 13.7 ± 2.6), respectively). Preoperative and postoperative median C-PEP were 33.2 ± 0.8 (OR = 17.0 ± 1.5 and 10.0 ± 0.9 (OR = 33.1 ± 0.9), respectively). On follow-up biopsy, size of liver and improvement in fibrosis, while there had no change. Four out of five patients in the cirrhotic cohort had improvement in fibrosis stage and LBM improved in all of them. Five out of seven patients with stage 3 fibrosis had an improvement in fibrosis stage and once progressed to cirrhosis, LBM improved in three of these five patients.

Conclusion MBS can be performed to ameliorate advanced liver fibrosis, including cirrhosis. Preoperative fibroelasticity can be used as an effective tool for assessing and follow-up of liver disease in patients undergoing MBS.

Keywords Bariatric surgery · NAFLD · Cirrhosis · Fibrosis · Liver biopsy

Background Presently obesity in patients seeking metabolic and bariatric surgery (MBS), with 1–4% of patients found to have histological cirrhosis during surgery [1]. While up to 40–50% of patients have shown complete resolution of NAFLD after MBS [2], traditionally, cirrhosis of liver has been considered an irreversible pathology. Although some recent evidence has challenged this concept [3], it still is with a dearth of literature on the safety and efficacy of MBS in patients with advanced

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Adenocarcinoma of oesophagus involving gastro-oesophageal junction following mini-gastric bypass/ one anastomosis gastric bypass

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Abstract Mini-gastric bypass/one anastomosis gastric bypass (MGB/OAGB) is an emerging weight loss surgical procedure. There are serious concerns not only regarding the symptomatic hiatal reflux into the stomach and the oesophagus but also the increased risk of malignancy after MGB/OAGB. A 54-year-old male, with a body mass index (BMI) of 46.1 kg/m², underwent bariatric MGB/OAGB as another option on 22nd June 2016. His preoperative upper gastrointestinal endoscopy was normal. One year 18 months after the surgery and attained a BMI of 25.1 kg/m². However, 2-year post-MGB, his weight had rapidly gained back of 19 kg with a decrease in BMI to 18.3 kg/m² within a span of 2 months. He also developed progressive dysphagia and had recurrent episodes of gastro-oesophageal reflux. This emergency showed esophageal growth in lower oesophagus extending up to the gastro-oesophageal junction and biopsy reported adenocarcinoma of oesophagus. MGB/OAGB has a potential for hiatal reflux with increased chances of malignancy. Surveillance by endoscopy at regular intervals for all patients who have undergone MGB/OAGB might help in early detection of Barrett's oesophagus or oesophageal carcinoma or stomach.

Keywords Bariatric surgery, Barrett's oesophagus, hiatal reflux, oesophageal carcinoma, gastric carcinoma, one anastomosis gastric bypass

INTRODUCTION Mini-gastric bypass/one anastomosis gastric bypass (MGB/OAGB) first reported by Rodriguez is an emerging weight loss surgical procedure. [1] It is found to be safe and effective in terms of successful weight loss and resolution of obesity-related comorbidities [1]. Nevertheless, it has been viewed with

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Impact of bariatric surgery on urinary incontinence in morbidly obese individuals

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Abstract There is scanty evidence on the impact of bariatric surgery on urinary incontinence (UI) in the Asian population.

Methodology Patients who underwent bariatric surgery from June 2008 to June 2019 were screened using the International Consultation on Incontinence Questionnaire-Urinary Incontinence-Short Form (ICIQ-UISF) questionnaire. Patients having UI were identified and followed until 1 year of surgery using the ICIQ-UISF. These were classified as having stress, urge, or mixed type of UI. The prevalence, change in scores, and the number of pads used were compared at baseline and at follow-up.

Results A total of 140 patients underwent bariatric surgery of whom 41 patients (29.3%) had UI. Stress incontinence was seen in 20.7%, 19.5% had urge incontinence, and rest had the mixed type. Using logistic regression, it was found that female gender was the most important predictor of having UI (OR: 8.33). The prevalence of UI decreased from 27.7% at baseline to 8.1% at 6 months and 1.8% at 12 months. The mean ICIQ-UISF score improved from 9.36 (SD = 3.2) at baseline to 0.66 (SD = 2.1) at 12 months of follow-up. The proportion of patients with UI using any number of pads decreased from 92.7% at baseline to 9.3% at 12 months. There was a decrease in the number of patients having tenderness to very severe UI from 35 (45.4%) at baseline to 2 (2.6%) at 12 months. Proportion of patients showing tenderness was highest among the stress incontinence group at 96.5%. Presence or absence of comorbidities did not significantly influence the ICIQ-UISF scores.

Conclusion Bariatric surgery leads to profound improvement in UI in obese individuals which is well sustained until 1 year of follow-up. Resection rates might be higher in Asian population.

Keywords Bariatric surgery · Urinary incontinence · Asian · ICIQ-UISF score

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ORIGINAL CONTRIBUTIONS

Five-Year Outcomes of Sleeve Gastrectomy in Patients with Class I Obesity and Type 2 Diabetes Mellitus

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Abstract Several studies have reported short and medium-term outcomes of laparoscopic sleeve gastrectomy (LSG) in patients with class I obesity and type 2 diabetes mellitus (T2DM). However, literature on outcomes beyond three years is scarce. The present study describes the 5-year results of a previously reported cohort of 20 patients with class I obesity and T2DM, who had undergone LSG between March 2012 and March 2015.

Methods and Results Patients were followed up in the home clinic at yearly intervals as per routine protocol. Primary outcome was proportion of patients with a glycated hemoglobin (HbA1c) level of 6.5% or less, 6 years after LSG. Secondary outcomes were percentage total weight loss (FTWL), excess weight loss (EWL), weight regain and complications.

Results Out of 20 patients, 9 (45%) were male and 11 (55%) were female. Mean age was 41.6 ± 9.5 years. Mean pre-operative weight and BMI were 94.8 ± 14.4 kg and 34.4 ± 1.2 kg/m², respectively. Moderation of diabetes was 42 months. Mean pre-operative fasting plasma glucose (FPG) and HbA1c were 171.1 ± 56.8 mg/dL and 8.1 ± 1.0%, respectively. Of the 17 patients available for follow-up at 5 years, 9 (52%) achieved HbA1c < 6.5% without medication, while 7 (41.2%) patients had improvement of their glycemic status. One patient had recurrence of diabetes after initial remission. Mean FTWL and %EWL were 18% and 65.1%, respectively.

Conclusion Laparoscopic sleeve gastrectomy is a reasonable option as a metabolic procedure for patients with T2DM and class I obesity.

Keywords Bariatric surgery · Metabolic surgery · Non-severe obesity · Long-term outcomes · T2DM

Introduction Metabolic and bariatric surgery (MBS) has been reported to be more effective than either standard or intensive medical treatment in patients with severe obesity and T2DM [1]. The impact of bariatric surgery on T2DM is impressive, with around 70–80% patients achieving remission or improvement [2]. This positive impact on diabetes can be seen in the early postoperative period.

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Original article

Outcome of bariatric surgery on hypothyroidism: experience from a tertiary care center in India

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Abstract Background: Hypothyroidism is frequently found to be associated with morbid obesity. Effect of bariatric surgery on type 1 diabetes, hypothyroidism, and other types has been studied extensively but there is dearth of literature on impact on thyroid function. We had published our experience of laparoscopic sleeve gastrectomy and its effect on hypothyroidism in morbidly obese patients previously. In this study, we have tried to evaluate the impact of bariatric surgery on the whole cohort of hypothyroid patients and compare the effect of various bariatric procedures on thyroid hormone replacement dose.

Objective: To assess outcome of bariatric surgery in the hypothyroid patients and to compare the outcomes of laparoscopic sleeve gastrectomy, Roux-Y gastric bypass, and one anastomosis gastric bypass in terms of reduction of thyroid hormone replacement dose.

Setting: Tertiary care University Hospital, India, Government Practice.

Methods: This is a retrospective analysis of a database of all bariatric procedures done at a single site at a tertiary care hospital located in India. Morbidly obese patients with hypothyroidism who had bariatric replacement were identified and their preoperative and postoperative thyroid hormone replacement dosage (THD) and thyroid stimulating hormone levels were compared.

Results: Of 183 patients undergoing bariatric surgery, 149 patients were hypothyroid (on thyroid hormone replacement). None of the patients were included in the final analysis. The mean age of the study population was 42.2 ± 10.4 years and the mean preoperative body mass index was 43.8 ± 5.3 kg/m². Mean follow-up duration was 23.8 ± 7.8 months. The mean weight loss was 36.9%. Sleeve (23/49) patients had decrease in their THD dosage, 37 (20.8%) had no change in THD dosage, and 4 patients required an increase in THD dosage. Increase of THD dose was observed in 84.7% patients in laparoscopic sleeve gastrectomy in comparison to 44.4% in bypass group.

Conclusion: Bariatric surgery might cause reduction of thyroid hormone dosage in hypothyroid, morbidly obese patients. *Obesity (Berl) 2022* (Epub ahead of print). Published by Springer on behalf of Association Society for Bariatric Surgery.

Key words Bariatric surgery · Hypothyroidism · Laparoscopic sleeve gastrectomy · Laparoscopic Roux-Y gastric bypass · One anastomosis gastric bypass

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ORIGINAL CONTRIBUTIONS

Impact of Sleeve Gastrectomy on Type 2 Diabetes Mellitus, Gastric Emptying Time, Glucagon-Like Peptide 1 (GLP-1), Ghrelin and Leptin in Non-morbidly Obese Subjects with BMI 30–35.0 kg/m²: A Prospective Study

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Abstract Background: The study was conducted to evaluate the impact of laparoscopic sleeve gastrectomy (LSG) on type 2 diabetes mellitus (T2DM) in patients with a body mass index (BMI) of 30.0–35.0 kg/m². Possible mechanisms, including alterations in gastric emptying time (GET), glucagon-like peptide 1 (GLP-1), ghrelin and leptin, were evaluated.

Methods: Twenty obese patients with T2DM and with a BMI of 30.0–35.0 kg/m² underwent LSG during March 2012 to January 2015. Glycated hemoglobin (HbA1c), fasting plasma glucose (FPG) and GET were measured at baseline, 3 months, 6 months, 12 months and 24 months after surgery. Fasting and post-prandial levels of serum GLP-1, ghrelin and leptin were measured pre-operatively and after 3 and 6 months. Finally, the average duration of follow-up was 17.6 months, and 17 patients had completed 1 year of follow-up. After 2 years, the average BMI decreased from 33.4 ± 1.2 to 26.7 ± 1.4 kg/m². The mean HbA1c decreased from 8.7 ± 1.2 to 6.7 ± 1.5%, respectively. Ten patients achieved complete remission, whilst twelve belonged to all or partial remission in a pre-operative A1c-uncontrolled (A1C) response and seven had total or partial remission in a pre-operative A1C-controlled response. There was a significant decrease in GET.

Conclusion: This prospective study confirms the positive impact of LSG on diabetic state of non-morbidly obese patients. The possible mechanisms include the rise in post-prandial GLP-1 level induced by accelerated gastric emptying, leading to increase in insulin secretion. LSG also leads to decreased ghrelin and leptin levels which may have a role in improving glucose homeostasis after surgery.

Keywords Sleeve gastrectomy · Diabetes mellitus · Class I obesity · Metabolism · Gastric emptying time · Glucagon-like peptide 1

Introduction Diabetes is currently the most common non-communicable disease worldwide. According to the International Diabetes Federation, 6.4 % of 20–79-year age groups are diabetic which is projected to nearly 285 million people and is expected to reach 7 % by 2020 [1]. Type 2 diabetes mellitus (T2DM) is a progressive disease with a gradual increase in insulin resistance and loss of β-cells which often requires intensification of medical therapy.

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Impact of Bariatric surgery on Advanced Liver Fibrosis and Cirrhosis

The prevalence of non-alcoholic fatty liver disease (NAFLD) has been reported up to 90% in morbid obese patients. Cirrhosis frequently coexists in patients seeking metabolic and bariatric surgery (MBS), with 1–4% of patients found to have incidental liver cirrhosis during surgery.

A retrospective study done at our centre included 258 patients who underwent bariatric surgery between 20015 to 2018. 179 patients had an intraoperative liver biopsy which showed advanced fibrosis in (\geq F3) in 16% (30) patients and any grade of fibrosis in 117 patients (65%). 58 patients underwent 1 year follow up biopsy which showed a significant improvement in NAFLD activity score from 2.81 to 1.3 and Fibrosis (reduced by 51.7%).

In another retrospective study done at our centre, patients who had evidence of cirrhosis or advanced liver fibrosis(\geq F3) on intraoperative liver biopsy (IOLB) and those who had grossly nodular liver on laparoscopy between 2014 and 2018 were included. In total, 38 patients with advanced fibrosis of the liver underwent bariatric surgery. 22 of these had cirrhosis of liver and 16 had stage 3 fibrosis. Majority (76%) of our patients underwent sleeve gastrectomy (SG), followed by RYGB (15.8%) and OAGB (7.9%) (All patients with nodular liver underwent SG). There were no major Intraoperative complications. There were no leaks or 30-day mortality. Thirty-one (81.6%) patients came for follow-up, median follow-up being 34.5 months (range 6–56). Seven patients (23.3%) showed worsening on TE, three in the Cirrhosis cohort and four in the Stage 3 Fibrosis cohort. Twelve patients consented for percutaneous liver biopsy at the end of 1 year, of which, nine had an improvement in fibrosis, while three had no change in the fibrosis. The incidences of early and late hepatic decompensation in our study were 2.6% (n = 1) and 5.3% (n = 2), respectively.

These results reconfirm the safety of MBS in advanced liver disease. There exists a preference towards SG, probably from a potential risk of hepatic decompensation after malabsorptive procedures as well as difficult access to the bypassed stomach and bile duct, for endoscopic surveillance of varices and ex- traction of bile duct stones, respectively. Notwithstanding the surge of evidence of safety and feasibility of MBS in patients with cirrhosis, the overall incidence of postoperative complications is still high compared with patients without cirrhosis. This, along with the risk of late mortality, should be explained to patients who opt for surgery. The biggest hindrance to preoperative counselling of patients is that majority of cases of cirrhosis are diagnosed incidentally during surgery, by visual inspection of a nodular liver. FibroscanR and Blood tests can help predict severity of liver disease.

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Importance of psychological evaluation for bariatric patients

Obesity is seen to be prevalent among the general population due to unhealthy lifestyles and sedentary work practices. Bariatric surgery has emerged as an alternative solution for weight reduction to improve the health and quality of life of obese patients, but to take good care of the patient's health pre- and post-surgery, a multidisciplinary team is essential. The role of a psychologist as a part of this multidisciplinary team is to ensure the psychological health of the patient and to make sure that the patient is aware of the risks in the surgery as well as its aftercare commitments. Thorough psychological evaluation before the patient is operated on gives the mental health professional a clear idea about their current mental status and how the surgery can impact it.

To determine an ideal patient for bariatric surgery, preoperative psychological evaluation includes close attention to psychosocial factors like patient's readiness towards surgery, knowledge about post-operative care, willingness to follow a diet, psychiatric and psychological comorbidities, social support, history of substance abuse, suicidal ideation/attempts, trauma and overall quality of life. A patient may not be psychologically eligible for bariatric surgery if there has been a history of suicidal attempts, psychosis, severe depression, eating disorders and substance abuse. Apart from determining the readiness of the patient for surgery, knowledge of the psychological and social history of the patient makes it easier for psychologists to predict post operative symptoms and manage them collaboratively with the patient. Usually, patients report increased bodily satisfaction, self-confidence, and higher self-esteem after bariatric surgery. Unfortunately, some patients who experience mood swings or weight regain post operation can benefit from psychological support to help them adjust better. Psychoeducation, problem-solving training, cognitive behavioural therapy, acceptance and commitment therapy, dialectical behavioural therapy, behaviour modification and self-monitoring are some techniques widely used with post bariatric patients for symptom management.

Bariatric surgery is an effective treatment recommended mainly for patients who are well-informed and psychologically fit with the ability to stay motivated in committing to their diet and health post-surgery. Psychological counselling and psychotherapy can enhance the post operational experience for patients facing difficulties. Pre and post operative psychological care, thus is a crucial aspect for patients to overcome difficulties and maximize the outcomes of bariatric surgery improving the overall quality of life in patients.

Shelly
Psychologist
AIIMS New Delhi

AIIMS BARICON 2019



2nd International Conference On Bariatric and Metabolic Surgery

Theme: Management of Complications

November 13 – 16, 2019, All India Institute of Medical Sciences, New Delhi, India



HOME REGISTRATION ABSTRACT VENUE SPONSORS ORG COMMITTEE FACULTY PROGRAM GEN INFO CONTACT FORMSINDIA.ORG

“BARICON 2019, the 2nd International Conference of FORMS, endorsed by IFSO, cadaveric cum Live Operative Workshop” was held at All India Institute of Medical Sciences, New Delhi. The efficacy of Bariatric surgery is well established. The focus of the conference was management of complications. This meeting laid stress on the proper management of complications as per the global standards. The focus was to manage the complications correctly and not rely on denial.



International faculty and experts were invited as speakers

The AIIMS BARICON 2019 was a great success. The stalwarts of Bariatric surgery were present under one roof offering a great opportunity for beginners. It boosted the motivation for bariatric surgery, which is now the need of the hour amongst the young surgeons. The rare reports of high complications after bariatric surgery are due to mismanagement of complications. The theme of the conference was management of complications with the global standards.



AIIMS BARICON 2019 was the second international conference organized by FORMS (Foundation of Obesity Research and Metabolic Surgery) after the Success of 1st BARICON 2016. The vision of FORMS is to create a platform for integrated management of Morbid obesity and its associated comorbidities.



AIIMS BARICON: Hands on Cadaveric Course

The Cadaveric course was the first of its kind organized in an international conference at SET Facility, Convergence Block, AIIMS New Delhi.

We had dedicated national and international faculty to guide the beginners via hands on course on cadavers with a special focus on how to avoid mishaps during surgery.



Course Faculty

 Prof. Sandeep Aggarwal AIIMS, New Delhi Course Director	 Dr. Hemanga Bhattacharjee AIIMS, New Delhi Course Co-Director	
 Dr. Jan Greve Netherlands	 Dr. Juan Pujol Rafols Spain	 Dr. Nasser Sakran Israel
 Dr. Laurent Layani U.A.E	 Dr. Sanjay Agrawal UK	 Dr. Reynu Rajan Malaysia



Bariatric Hands on Cadaver Course

13th Nov' 2019, AIIMS S.E.T Facility, 2nd Floor Convergence Block, New Delhi

Each candidate got to do hands on training on cadaver which provided real life surgical experience. The course was highly rated by previous candidates in terms of acquiring skills to perform bariatric procedures. The Programme was designed so that each candidate gets to perform at least 2 bariatric procedures.

This was the first of its kind cadaver Programme held at an international conference.

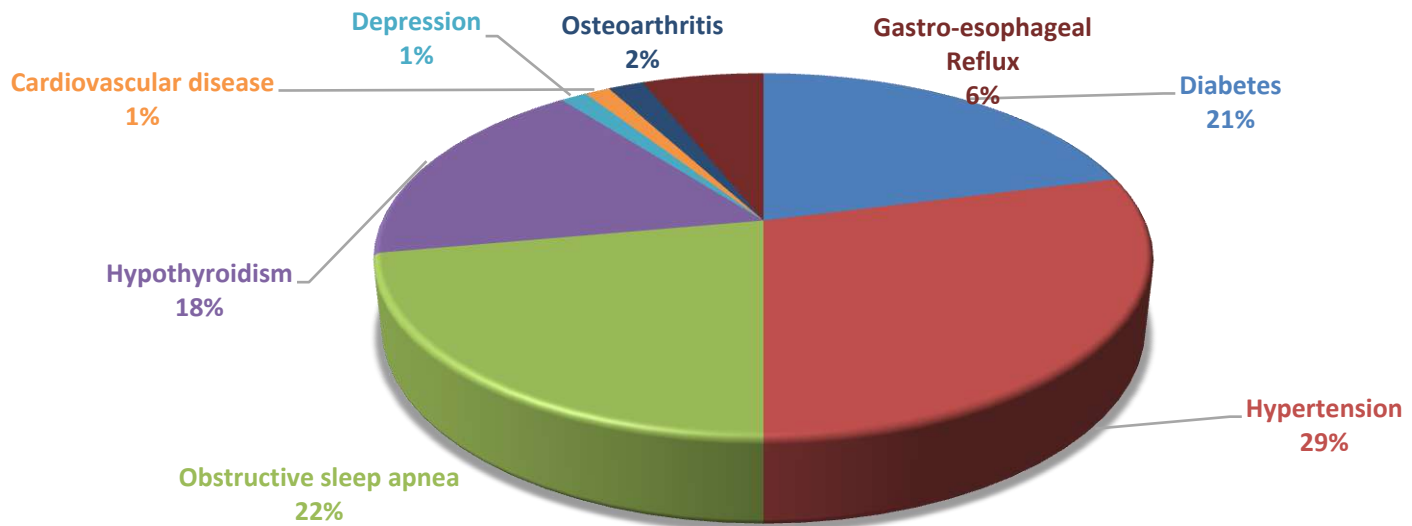
AIIMS Bariatric Surgery Programme at a Glance

AIIMS Bariatric surgery data

- Total Patients - 1066
- Mean Age- 40.7 years
- Mean BMI- 46.5 kg/m²
- Female: Male – 3:1
- Patients >55 years - 98
- Patients <18 years - 13

Type and number of procedures performed

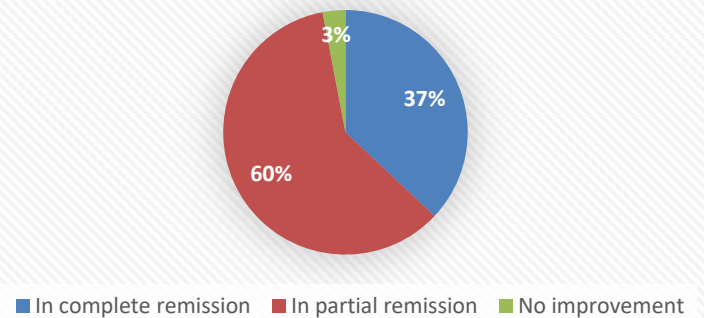
- Laparoscopic Sleeve Gastrectomy- 751
- Roux-en-Y Gastric Bypass- 199
- Mini Gastric Bypass- 94
- Banding- 22
- Revision surgeries- 22
- Single incision surgeries- 10



Mean percentage Excess Weight Loss

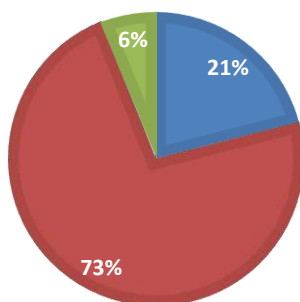


Impact on Type 2 Diabetes



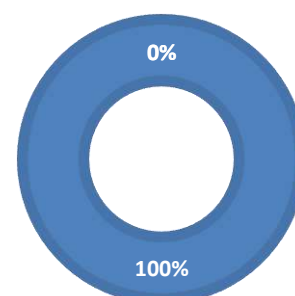
Impact on Hypertension

■ In complete remission ■ In partial remission ■ No improvement



Resolution of OSA in Bariatric Patients Post- Surgery

■ In complete remission ■ In partial remission ■ No improvement

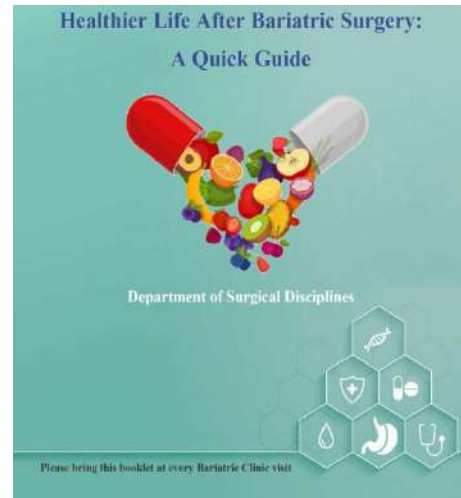




Upcoming Activities – Supported by FORMS



BARICARE



Launch of Android app for patients post bariatric surgery

Patient booklet for post bariatric surgery care

BARICON November 2022



Bariatric Cadaveric courses



Bariatric Program Coordinator Course

Most Important of all...



Regular Patient Support Group Meetings

Achievements of Team Bariatric

Prof. Sandeep Aggarwal

1. Invited as an Expert from India for a Course on Pediatric Obesity-Global Perspectives at the Obesity Week organized by The Obesity Society (TOS) & American Society of Metabolic and Bariatric Surgery (ASMBS)
2. Editor of Journal of Minimal Access Surgery
3. Associate Editor of Journal of Bariatric Surgery
4. Member of Editorial Board for the prestigious journal "Obesity Surgery"

Awards

- Dr. Sai Divya won the Best Paper Award at the Annual Meeting of Delhi State Chapter of ASI.
- Dr. Vitish Singla won the Best Paper Award at SURGICON 2018 and Association of Surgeons of India (ASI) Presidents Medal in 2019 for best research work.
- Dr Vitish Singla and Dr Bhanu Singh won the First prize as the Best poster of the congress IFSO 2021 Miami.
- Dr. Prasanna Ramana won the 1st prize in the Dr. Palanivelu best PG paper category in ASICON 2020.
- Dr. Arun Kumar won Best Paper Award in Bariatric Session in INDO-UK SURGICON 2020.



Best Research Awards from IAGES

Prof Sandeep Aggarwal, Dr Devender, Dr Prasanna and Dr Washim Khan received the prestigious Indian Association of Gastrointestinal Endosurgeons (IAGES) award for Best research. They donated a total of Rs 1 lakh from the prize money towards IAGES COVID relief as a gesture of goodwill.

Presentations at National and International Conferences

1. Bariatric Live Virtual- RYGBP/LSG – ROBOLAP
2. Outcomes in Super Obese Patients Undergoing One Anastomosis Gastric Bypass or Laparoscopic Sleeve Gastrectomy - 7th International Forum of Bariatric & Metabolic Surgery in Nanjing
3. Moderator on Panel Discussion in Complications in bariatric surgery - Selsicon 2019
4. GERD following sleeve gastrectomy – Selsicon 2019
5. Conversion of sleeve to "What, When & How" – IAGES FALS
6. Bariatric Surgery in CLD - special consideration – IAGES FALS
7. Panelist in Reaching out to fellow medical colleagues - Laparofit 2019 & Asia Pacific Summit
8. Panelist in Success vs Failure: Surgeon vs Patient - Laparofit 2019 & Asia Pacific Summit
9. Obesity- Causes, Prevention and Surgical Management – AIIMS Public lecture
10. Pediatric Obesity - Indian Experience & Genetic Obesity, Surgical Treatment - Obesity Week 2019 of American Society of Metabolic and Bariatric Surgery (ASMBS) and The Obesity Society (TOS)
11. HHR during Sleeve- Important Risk Reduction strategy for Denovo GERD - AIIMS BARICON 2019
12. Intraoperative Mishaps- Lessons Learnt – AIIMS BARICON 2019
13. Strategies for management of T2DM in Obese- Role of LSG - London International Bariatric Surgery Symposium (LIBSS – 2019)
14. Bariatric Surgery and Polycystic Ovarian Disease (PCOD) - 3rd Annual Conference of the MP PCOS Society
15. Strategies for management of T2DM in Obese- Role of LSG – LIBSS 2019
16. Bariatric Surgery and Polycystic Ovarian Disease (PCOD) - 3rd Annual Conference of the MP PCOS Society
17. Intraoperative Mishaps during Gastric Bypass Lessons Learnt – IAGES 2020
18. Top Publications form India- Utility of Transient Elastography & Impact of Bariatric Surgery on NAFLD – OSSICON 2020
19. Obesity Management- Bariatric Surgery - ICMR Expert Group Meeting on PCOD: Phase II&III

FAQs

Q. How do I know if I am eligible for weight loss surgery?

A. In order to determine a patient's eligibility for weight loss surgery, we use body mass index (BMI) rather than using weight as a criteria for surgery -- excess fat in relation to height. Individuals are candidates for surgery if:

- They have failed previous attempts at weight loss in a medically supervised program
- Their BMI is greater than 40 or between 35 and 40 with major obesity-related medical problems.

Q. Is weight loss surgery right for everyone?

The answer is no. Surgery is not a solution for everyone. We only determine whether a patient is right for surgery after a complete evaluation and discussion with the patient. Because weight loss surgery is a life-altering procedure, we want to make sure our patients are committed to making the lifestyle changes needed for a successful procedure.

Q. What are the risks of weight loss surgery?

A. All major surgery comes with risks, and the risks are different for each patient. During your first appointment, your surgeon will explain your individual risk level.

Q. How much weight will I lose? Will the weight loss be quick?

A. The amount of weight you lose -- and how fast you lose it -- depends on which weight loss surgery you have. Patients who have adjustable gastric banding (Lap-Band®) procedure usually lose lesser weight than those who have gastric bypass (RYGB) or sleeve gastrectomy. In our program the average weight loss after surgery varies between 60-70% percent of his or her excess body weight after surgery. It will also depend on how strictly you follow the postoperative advice such as dietary instructions as well as regular physical activity.

Q. Can I become pregnant after weight loss surgery?

A. Women should avoid pregnancy for at least 18 months after surgery. Please discuss any pregnancy plans with your surgeon during one of your clinic appointments

Q. How long will I be off of work after surgery?

A. Again, your time off of work will depend on the type of weight loss surgery you have. After Lap- Band® surgery, you can return to work in about one-week. The sleeve gastrectomy / gastric bypass (RYGB) surgery requires an average of two- to four-week recuperation.

Q. Will I have to take vitamins?

A. Yes, but the amount and duration depends on your weight loss procedure.

Q. Should I exercise after weight loss surgery?

A. Regular exercise is extremely important for maintaining your weight loss. Your surgery team will help you with the instructions on type of exercise you should be doing.

Q. What is the recovery time following surgery?

A. We usually encourage our patients to be mobilised on the day of surgery (within 6 hrs of surgery) in order to prevent clotting in the leg veins (DVT) Our patients are usually completely mobile by day 1 and are usually discharged by day 2 or day 3. They are advised a period of sedentary work for up to 1 month after which they can resume their normal activities.

Q. How often am I required to see the surgeon/physician assistant and dietician after surgery for follow-up?

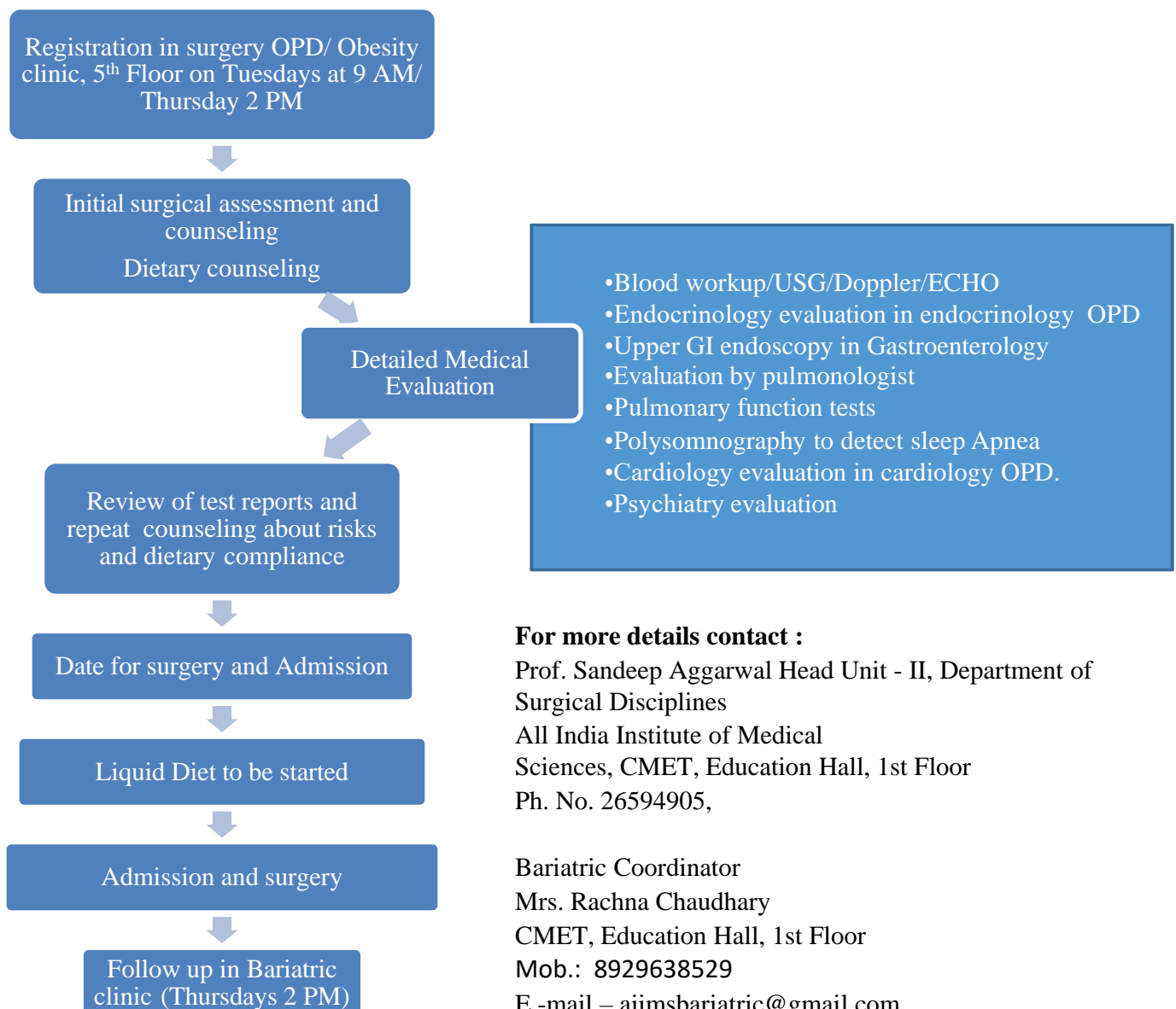
A. Following bariatric surgery you will have to visit the doctor after a week during which suture removal and other immediate postoperative complaints can be attended. The follow-up is life long and includes 3 monthly visits for first year and the annual visits. It is extremely important for you to be regular and not miss your appointments.

Bariatric Surgery Clinic

A dedicated bariatric surgery clinic is in function. The clinic will go a long way in fulfilling various needs of the obese patients. The need for specialised clinic hours for obese patients has been a long felt need since these patients require a longer time with the doctor in order to counsel them adequately regarding the various aspects of bariatric surgery. Patients who want to get operated and require counseling regarding the various aspects of bariatric surgery can meet and get their doubts cleared. Moreover, patients who have been operated previously can have a more organized follow-up. Bariatric Surgery clinic will offer a lot of advantages to our patients.

One, patients need not wait in long never ending queues to meet up with their doctor. Since our patients need at least two to three appointments with their doctor before the surgery, this has definitely proved to be a blessing in disguise for them. **Second**, patients who want to get operated will definitely have a lot of doubts regarding the surgery even if they have been counselled in detail by their doctor. Nothing works better than a fellow obese patient, who underwent bariatric surgery previously telling them regarding the benefits he/she has gained due to the surgery. The bariatric surgery clinic provides this opportunity for our pre-operative patients to interact with our operated patients who come for follow up visits and have their fears addressed. **Three**, our operated patients who come for their follow up visits get more time to discuss their various problems with the doctor. We have the services of our team of dieticians too in our clinic so that diet counseling can be done at the same time. We conduct the bariatric surgery clinic every Thursday at 2 pm in room no.1, 5th floor surgery OPD. We sincerely request all our patients to make full use of this opportunity provided to them and make this clinic initiative a huge success.

Getting Bariatric Surgery at AIIMS



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