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Abstract:

Background: There is currently little evidence available on the perioperative practices concerning One Anastomosis/Mini Gastric Bypass (OAGB/MGB) and no published consensus amongst experts. Even the published papers are not clear on these aspects. The purpose of this study was to understand various perioperative practices concerning OAGB/MGB.

Methods: Bariatric Surgeons from around the world were invited to participate in a questionnaire-based survey. Only surgeons performing this procedure were included.

Results: Two hundred and ten surgeons from 39 countries with a cumulative experience of 68,442 procedures took the survey. Surgeons described a large number of absolute ($n = 55$) and relative contraindications ($n = 59$) to this procedure in their practice. Approximately 71.0 % ($n = 148/208$), 70.0 % ($n = 147/208$), and 65.0 % ($n = 137/209$) respectively routinely perform a preoperative endoscopy, screening for Helicobacter Pylori, and ultrasound scan of the abdomen. A minority (35.0 %, $n=74/208$) of the surgeons used a constant Bilio-Pancreatic limb (BPL) length for all the patients with remaining preferring to tailor the limb length to the patient and approximately half (49.0 %, $n = 101/206$) routinely approximate diaphragmatic crura in patients with hiatus hernia. Some 48.5 % ($n = 101/208$) and 40.0 % ($n = 53/205$) surgeons respectively do not recommend routine iron and calcium supplementation.

Conclusion: This survey is the first attempt to understand a range of perioperative practices with OAGB/MGB. The findings will help in identifying areas for future research and allow consensus building amongst experts with preparation of guidelines for future practice.

Key Words: Mini Gastric Bypass, One Anastomosis Gastric Bypass, Single Anastomosis Gastric Bypass, Omega Loop Gastric Bypass, Peri-operative Practices

Introduction:

Several authors [1-7] have now published their experience with One Anastomosis (Mini) Gastric Bypass (OAGB/MGB) but there is a lack of consensus regarding its indications/contraindications, various intraoperative details, and postoperative care. Indeed, there is scant evidence for these aspects as published papers have largely focussed on weight loss, comorbidity resolution, and complications [1-7].

The absence of published data on various perioperative practices poses difficulty for bariatric surgeons wishing to adopt OAGB/MGB into their routine practice. It enhances our dependence on the few experts and harms scientific credentials of this somewhat controversial [8, 9] procedure. Absence of such data is probably the reason why despite several consensus meetings on this procedure, there is as yet no published consensus regarding various aspects of this procedure amongst experts. Without this baseline information, it has proved difficult to standardise this operation and identify areas of debate for future research.

The purpose of this study was to understand various perioperative practices concerning OAGB/MGB in detail. It should be emphasised that this survey does not aim to identify best practice. We have simply aimed to understand all variations in practice concerning OAGB/MGB in this study to be able to collect largest possible dataset for identification of best practice in future studies.

Methods:

A questionnaire-based survey (<https://www.surveymonkey.co.uk/r/V33SMLD>) was conducted of the global community of bariatric and metabolic surgeons [Table 1]. Surgeons were invited to take the survey on SurveyMonkey ® starting on 28th January 2017. The link to the survey was freely shared on the social media (Facebook Groups, Twitter, and LinkedIn Groups), email chat group of surgeons (Google Groups), and through personal networks. Facebook Groups where the information was shared were “International Bariatric Club” and “Bariatric and Metabolic Surgery Professionals”. On LinkedIn we used the group “Bariatric and Metabolic Surgery Professionals”. An email was also sent to presidents of all the national bariatric societies affiliated to International Federation for the Surgery of Obesity and Metabolic Disorders (IFSO) for circulation amongst their membership. The survey was closed for analysis on 18th March 2017. Basic descriptive statistics was used. Non- surgeons, as well as surgeons not performing OAGB/MGB, were asked to leave the survey to focus on surgeons with experience with this procedure.

The choices offered in this survey were felt to be the most appropriate options by the authors. To ensure that respondents could also enter other thoughts pertinent to this survey, we asked for “any other thoughts” at the end.

Since the purpose of this survey was to capture all variations in practice, we included all OAGB/MGB surgeons irrespective of their experience. We did not use any cut-off for experience as this survey does not aim to identify best practice and using any cut-off would necessarily mean that we will fail to capture some of the prevalent practices.

Results:

A total of 541 respondents answered the survey. Out of these, 49 respondents were not surgeons and a further 198 surgeons declared that they did not perform OAGB/MGB. These respondents were asked to leave the survey and their data was excluded. This left us with 294 surgeons who declared themselves as OAGB/MGB surgeons. Out of these 81 surgeons did not provide any data for the survey and were hence excluded. Three sets of duplicate data were also excluded. We were finally left with 210 OAGB/MGB surgeons who completed the survey with a cumulative experience of 68,442 procedures (range 2 – 6500, median 114). The interquartile range was 270 (300-30).

The nationality of Respondents and IFSO Membership: Respondents from 39 countries participated in the survey. Table 2 provides country-wise data for all the responses.

Contraindications: Surgeons mentioned 55 absolute contraindications in their practice. Table 3 provides a list of absolute contraindications mentioned by at least 3 surgeons from different units with the number of surgeons mentioning them. Surgeons also mentioned 59 relative contraindications in their practice. Table 4 provides a complete list of relative contraindications mentioned by at least 3 surgeons from different units with the number of surgeons mentioning them.

Preoperative Assessment: Approximately 71.0 % respondents ($n = 148/208$) routinely perform a preoperative endoscopy and a similar number (70.0 %, $n = 147/208$) routinely screen patients for Helicobacter Pylori. A slightly lower percentage (65.0 %, $n = 137/209$) of respondents perform a routine ultrasound scan of the abdomen.

Intraoperative Technical Details: An overwhelming 94.0 % ($n=197/209$) routinely use a bougie to size the pouch. When asked regarding the size of the bougie, surgeons reported a wide variation. Table 5 lists the sizes of the bougie used by at least 3 surgeons from different units with the number of surgeons using them. Approximately 16.0 % ($n = 33/210$) of the surgeons routinely use staple line reinforcement. Ten of these surgeons (30.3 %) use Seamguard® and 20/33 (60.6 %) use some sort of a reinforcement suture. The remaining 3 /33 used reinforced Medtronic ® reinforced stapler.

Almost half (49.0 %, n = 101/206) of the respondents routinely approximate the diaphragmatic crura in patients with a hiatus hernia. A quarter of the surgeons (25.5 %, 53/208) routinely measure the entire small bowel length and approximately 22.0 % (n = 45/207) routinely divide the Omentum.

Some 35.0 % (n=74/208) of the surgeons used a constant Bilio-Pancreatic limb (BPL) length for their patients with the remaining surgeons using a BPL length tailored to the patient characteristics. A range of fixed limb lengths was mentioned. Table 6 lists the fixed limb lengths mentioned by at least 3 surgeons along with the number of surgeons using them.

Most surgeons (n = 179/208, 86.0 %) performed a linear stapled gastrojejunostomy followed by suture closure of the enterotomy. A smaller (21/208, 10.0 %) number performed a fully hand sewn anastomosis and the remaining 3.84 % % (n=8/208) perform a fully stapled gastrojejunostomy.

Approximately 18.0 % (n= 38/209) surgeons routinely close the Petersen's defect and nearly 90.0 % of the surgeons (n = 187/208) perform a leak test for the gastro-jejunostomy. Most of these (154/187, 82.35 %) surgeons used methylene blue for the leak test. The remaining surgeons used insufflation under-water leak test.

Approximately 44.0 % of surgeons (n= 92/209) used some sort of anti-reflux technique for gastro-jejunostomy and 55.0 % surgeons (n = 114/208) routinely use an intra-abdominal drain. But only 12.5 % (n = 26/208) leave a nasogastric tube postoperatively.

Postoperative Inpatient Management: Twenty-eight percent (n = 58/209) perform a routine postoperative contrast study and most surgeons (71.0 %, n = 149/210) allow oral intake on either the day of surgery or first postoperative day. Twenty-nine surgeons (13.8 %) allow first oral intake on the 2nd postoperative day and nine (4.28 %) surgeons allow first oral intake on the 3rd postoperative day.

Post-discharge Management:

i) **Marginal Ulcer Prophylaxis:** Most (89.3 %, n = 185/207) surgeons routinely use marginal

ulcer prophylaxis with Proton Pump Inhibitors (PPI). Only 9 of these surgeons (4.8 %) recommend prophylaxis for a duration longer than 6 months – eight for 12 months and one life long. PPI prophylaxis for up to 6 months was recommended by the remaining (84.5 %).

ii) Micronutrient Supplementation: When asked regarding iron supplementation, slightly over half ($n = 107/208$) routinely supplemented patients for iron. Only 43 surgeons ($n=43/208$, 20.6 %) supplemented routinely with 45 mg or more iron. Approximately sixty-eight percent ($n = 141/208$) surgeons recommend routine Vitamin D supplementation whereas remaining surgeons ($n = 67$, 32.0 %) do not. When asked regarding calcium supplementation, approximately 40.0 % of surgeons ($n = 83/205$) do not recommend any calcium supplementation. When asked regarding dose, a wide variation in doses of Vitamin D and Calcium was reported by respondents, with no clear trend. Interestingly, however, only 31 (31/2018, 14.9 %) surgeons recommend a dose of 3000 units daily or more of Vitamin D and only 3 (3/205, 1.46 %) surgeons recommend Calcium Citrate 2.4 grams daily or more.

When asked regarding Vitamin B 12 supplementation, 59.0 % surgeons ($n = 121/205$) reported routine supplementation whereas remaining (41.0 %, 84/205) did not routinely supplement it. Out of 90 surgeons who provided information on the route of administration of Vitamin B12, 33 (33/90, 36.6 %) surgeons supplement Vitamin B12 parenterally, 50 orally (50/90, 55.55 %), and 7 (7/90, 77.7 %) sublingually. An overwhelming 96.6 % ($n = 200/207$) recommend a multivitamin/mineral tablet after OAGB.

iii) Gall Stones Prophylaxis: Approximately 28.0 % surgeons ($n = 59/209$) routinely use Ursodeoxycholic acid prophylaxis for gallstones. Most of these surgeons recommend a duration of up to six months for this prophylaxis with only two (2/59, 3.4 %) surgeons recommending it for a year. Surgeons reported a wide variation in dosages in the range of 400 - 1200 mg daily.

Discussion:

This survey of 210 surgeons from 39 countries with a cumulative experience of 68,442 procedures is the first attempt to scientifically understand a number of peri-operative practices concerning OAGB/MGB and will open up several areas for further discussion and research. It could help in identifying and establishing best practice and pave the way for a scientific evidence-based standardisation of peri-operative care of patients undergoing OAGB/MGB.

It was interesting to note that respondents described a large number of absolute and relative contraindications for this procedure. Table 3 and 4 list some of the commoner ones. It is worth noting that there is considerable overlap between most of the absolute and relative contraindications; so what is an absolute contraindication for one group of surgeons is only a relative contraindication for another. This is probably due to lack of data and clarity on the safety of this procedure in individual groups of patients. The list of contraindications is particularly surprising if one considers that largest published series [1] on this procedure does not list any contraindication at all. Chevallier et al [6] however mentioned Barrett's oesophagus and severe GORD as a contraindication in their series and our group [7] too does not currently recommend this procedure for these groups of patients as well as those with large hiatus hernia. These criteria seem reasonable especially with all the concerns of GORD surrounding this procedure but one has to acknowledge that an adequate risk versus benefit analysis of OAGB in these groups of patients has not yet been made. Similar safety data for various subgroups of patients do not exist for other procedures either. For example, there is no study specifically evaluating the results with Roux-en-Y Gastric Bypass or sleeves in smokers, the group regarded as either an absolute or relative contraindication by a large number of respondents in this study.

There are large variations in surgical technique too. In particular, there does not seem to be any consensus on whether patients with a hiatus hernia should undergo crural approximation and perhaps even more importantly, majority of the surgeons (65.0%) in this survey do not use a fixed length of the BPL and very few surgeons in this survey use a fixed BPL length of <200 cm. The only published paper on tailoring of limb length with OAGB found improved weight loss when longer limbs were used for heavier patients [10] but this probably comes with a risk of malnutrition requiring reoperation which was reported to be

approximately 0.9 % of patients reported in a different study by the same group [2]. Future studies need to examine risk versus benefits of different limb lengths and tailoring of limb lengths. It has been suggested that the ideal length of BPL with OAGB/MGB is 150 cm [11] just as the ideal combined length of AL and BPL with RYGB is 150 cm according to a recent large systematic review [12].

A minority of 18.18 % (n= 38/209) surgeons routinely close the Petersen's defect. Though there have been reports of Petersen's hernia with this procedure, the incidence appears to be very low [13] and the current opinion of experts seems to suggest that closure of this defect is unnecessary with this procedure and is not without its own problems [13].

Whether, like RYGB, internal hernia with OAGB/MGB will become a bigger problem with increasing adoption of this procedure and longer follow-up on patients, remains to be seen but it is worth highlighting that its proponents feel fewer internal spaces and a large Petersen's space should result in a significantly lower internal hernia rates with this procedure in comparison with the RYGB.

Approximately 44.0 % of surgeons in this survey (n= 92/209) used some sort of anti-reflux technique for gastro-jejunostomy. Though this survey does not capture this information, it may be useful to understand techniques in use for prevention of GORD and examine their risks and benefits in future studies.

The survey suggests a wide variation in vitamin and micronutrient supplementation. Recent American guidelines suggest that RYGB patients be supplemented with at least 3000 units of Vitamin D and 2.4 grams of Calcium Citrate (aimed at providing 1200-1500 mg of elemental calcium) daily in addition to 45-60 mg of elemental iron daily. [14]. One could reasonably extrapolate that OAGB/MGB patients need at least the same dosages if not more. It was of some concern that only 31 (31/2018, 14.9 %) surgeons in this survey recommend a dose of 3000 units daily or more of Vitamin D and only 3 (3/205, 1.46 %) surgeons recommend Calcium Citrate 2.4 grams daily or more. Adequate supplementation doses of Vitamin D and Calcium for these patients need to be examined in future studies and a consensus reached on the most appropriate dosages until such studies become available. With regards to Iron, the exclusion of more proximal intestine seen with the OAGB could indicate a need for higher Iron supplementation than the RYGB. It was concerning to note that nearly half the surgeons did not routinely recommend the iron supplementation for their patients and only

a minority 20.0 % (n=43/208) used iron in recommended dosages or higher. Similarly, 41.0 % of surgeons (n = 84/205) do not routinely supplement Vitamin B12 though it is recommended patients are routinely supplemented for Vitamin B12 after RYGB [14]

This study has several limitations. Although we believe we have captured most surgeons performing this procedure (as evidenced by the large numbers performed), it is possible that there are surgeons who have not taken part. However, our aim was to get a snapshot of prevailing preoperative practices with this procedure and we believe with 210 surgeons including the most experienced, we have achieved our aims. Secondly, the nature of the delivery mechanism of the survey (online link to national societies, personal email network, social media) we cannot provide a response rate but we do not believe it will skew our findings as we cannot see how any particular group of surgeons will be less or more likely to participate. Another potential weakness of the study is that it gives equal weight to responses from all surgeons irrespective of their experience with this procedure. That is why findings of this paper should not be used to influence practice until a consensus can be reached amongst experts. The purpose of this survey was simply to capture all variations in practice to enable future studies that can identify best ones amongst these. Authors would hence like to caution against over-interpretation of these findings. The findings of this survey cannot be used to benchmark the best practices concerning this procedure.

The wide variation described in the results (in particular with regard to indications and contraindications) reflect the paucity of controlled long-term studies with the OAGB. This paper does not aim to identify best practice amongst a number of practices reported by the respondents on a range of areas. Indeed, several practices reported in this survey may be regarded as “non-standard” by many surgeons and open to challenge. Our aim was simply to capture all variations in practice to inform future studies as well as enable a consensus building exercise amongst experts performing this procedure.

In summary, we present a snapshot of worldwide current practice in OAGB surgery. We believe the results contained will open multiple areas for future research and form the basis for consensus building exercise amongst surgeons.

Conclusion:

The lack of consensus and standardisation may be hindering the uptake of OAGB/MGB. This survey is the first scientific attempt to understand a range of perioperative practices with OAGB/MGB. The findings could help in identifying areas for future research and a consensus building amongst experts. At the same time, it should be noted that this survey makes no attempt to identify best practice and its findings cannot hence be used to influence the choices surgeons make.

Conflict of Interest Statement: The authors declare that they have no conflict of interest.

Statement of Human and Animal Rights: Not Applicable

Statement of Informed Consent: Not Applicable

AUTHOR CONTRIBUTION:

KM conceived the idea for the topic, conducted the survey, and wrote most of the manuscript. SP, WC, CP, PKS, BM, MB, KK, YG, and CM critically reviewed and significantly improved the manuscript. All authors participated in the discussions on the topic. All authors have seen the final version and approve of it.

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Abbreviations:

OAGB/MGB: One Anastomosis (Mini) Gastric Bypass

IFSO: International Federation for the Surgery of Obesity and Metabolic Disorders

RYGB: Roux-en-Y Gastric Bypass

GORD: Gastro-Oesophageal Reflux Disease

PPI: Proton Pump Inhibitor

BPL: Bilio-Pancreatic Limb

Table 1: A Brief Questionnaire with Summary of Responses (Edited)

Questions	Responses		
Please confirm that you are a bariatric surgeon already performing OAGB/MGB	Yes I am a bariatric surgeon already performing OAGB/MGB	No, I do not perform OAGB/MGB	No, I am not a bariatric surgeon
Which Country Do you Work In?	Respondents were provided with a complete list of all the countries. Data summarised in Table 2		
How many OAGB/MGB procedures have you personally performed till date			
Are there any absolute contraindications to this procedure in your practice? Please list them			
Are there any relative contraindications to this procedure in your practice? Please list them			
Do you routinely perform a preoperative upper gastrointestinal endoscopy?	Yes	No	
Do you routinely screen patients planned for OAGB/MGB for Helicobacter Pylori?	Yes	No	
Do you routinely perform a preoperative Ultrasound scan of the abdomen?	Yes	No	
Do you always use a bougie to size the gastric Pouch	Yes	No	
If the answer to the last question is "Yes", please provide us with the size of the bougie you would usually use?			
Do you routinely use staple line reinforcement?	Yes	No	
If the answer to the last question is "Yes", please let us know what form of Staple line reinforcement you use.			
Do you routinely approximate diaphragmatic crura in patients with prediagnosed or intraoperatively identified hiatus hernia?	Yes	No	
Do you measure the entire small bowel length	Yes	No	

routinely?		
Do you divide Omentum routinely?	Yes	No
Do you use a constant length of Bilio-Pancreatic limb in all patients? Please select "No" if you vary limb length depending on BMI or other factors.	Yes	No
If the answer to the last question is "Yes", please mention in the box below the fixed length of the BP limb in centimeters you would routinely use?		
How do you perform your Gastro-Intestinal Anastomosis?		
Do you routinely close the Petersen's defect?	Yes	No
Do you routinely perform a leak test for your gastro-intestinal anastomosis?	Yes	No
If the answer to the last question is "Yes", please mention the technique you use.	Yes	No
Do you routinely add an anti-reflux modification to your gastro-intestinal anastomosis?	Yes	No
Do you routinely leave an intra-abdominal drain?	Yes	No
Do you routinely leave a nasogastric tube?	Yes	No
Do you routinely carry out contrast study in the early postoperative period?	Yes	No
Please describe when you start oral intake for your patients postoperatively.		
Do you routinely use marginal ulcer prophylaxis?	Yes	No
If the answer to the last question is "Yes", please mention the drug used and duration of usage.		
Do you routinely supplement your patients for iron?	Yes	No

If the answer to the last question is "Yes", please mention the dose of elemental iron you'd recommend daily.		
Do you routinely supplement your patients for Vitamin D?	Yes	No
If the answer to the last question is "Yes", please mention the dose of Vitamin D (in International units) you would recommend daily.		
Do you routinely supplement your patients for Calcium?	Yes	No
If the answer to the last question is "Yes", please mention the dose of elemental Calcium you'd recommend daily.		
Do you routinely supplement your patients for Vitamin B 12?	Yes	No
If the answer to the last question is "Yes", please mention the route (oral or parenteral or sublingual etc.) and the dose of Vitamin B12 you'd recommend daily.		
Do you routinely supplement your patients with a multivitamin/mineral tablet?	Yes	No
Do you routinely use Ursodeoxycholic acid for prophylaxis of gall stones?	Yes	No
If the answer to the last question is "Yes", please mention the daily dose and duration of such prophylaxis.		
Do you have any other thoughts relevant to this survey?		

Table 2: Country of Origin of Respondents in Alphabetical Order

Country of Origin	Percentage	Number of Responses
Argentina	2.40 %	5
Australia	4.81 %	10
Austria	0.96 %	2
Belgium	2.40 %	5
Brazil	3.85 %	8
China	0.96 %	2
Colombia	0.48 %	1
Costa Rica	0.48 %	1
Croatia	0.48 %	1
Czech Republic	0.96 %	2
Ecuador	0.48 %	1
Egypt	2.40 %	5
Finland	0.48 %	1
France	7.69 %	16
Germany	3.37 %	7
Greece	0.96 %	2
India	13.46 %	28
Iran	0.96 %	2
Israel	2.88 %	6
Italy	8.65 %	18
Jordan	0.96 %	2
Lebanon	3.37 %	7
Malaysia	0.48 %	1
Mexico	4.81 %	10
Netherlands	3.85 %	8
Norway	1.44 %	3
Poland	0.96 %	2
Portugal	0.96 %	2
Russian Federation	0.48 %	1
Saudi Arabia	2.4 %	5

Serbia	0.48 %	1
Slovenia	0.48 %	1
Spain	3.85 %	8
Turkey	2.88 %	6
Ukraine	0.96 %	2
United Arab Emirates	1.44 %	3
United Kingdom	8.65 %	18
United States of America	0.96 %	2
Venezuela (Bolivarian Republic of)	1.44 %	3

Table 3: Absolute Contraindications to OAGB reported by respondents

Absolute Contraindications	Percentage of Respondents	Number of Respondents
Gastro-Oesophageal Reflux Disease Related		
Significant GORD symptoms	7.14 %	15
GORD	7.61 %	16
Large Hiatus Hernia	4.28 %	9
Hiatus Hernia	1.90 %	4
Oesophagitis	1.42 %	3
Severe Oesophagitis	3.33 %	7
Barrett's Oesophagus	12.85 %	27
Behaviour Related		
Smokers	6.66 %	14
Heavy Smokers	1.42 %	3
Alcohol Dependent	2.85 %	6
Drug Abuse	1.90 %	4
Unwilling to take supplements	1.90 %	4
Vegetarian	1.90 %	4
Age Related		
Age < 16	2.85 %	6
Age < 18	1.42 %	3
Young Age	1.42 %	3
Age > 70	1.42 %	3
Bowel Related		
Inflammatory Bowel Disease	7.61 %	16
Crohn's Disease	7.14 %	15
Previous Bowel Resection	2.85 %	6
Significant intra-abdominal adhesions	2.85 %	6
Coeliac Disease	1.42 %	3
Miscellaneous		
Active Severe Psychiatric Issues	4.28 %	9
Cirrhosis of the Liver	3.80 %	8
Chronic Liver Disease	1.42 %	3
Family history of Gastric Cancer	1.90 %	4
Immunosuppressed	1.42 %	3
Steroid Dependent	1.42 %	3

GORD: Gastro-Oesophageal Reflux Disease

Table 4: Relative Contraindications to OAGB reported by respondents

Relative Contraindications	Percentage of Respondents	Number of Respondents
Gastro-Oesophageal Reflux Disease Related		
Significant GORD symptoms	2.85 %	6
GORD	11.42 %	24
Large Hiatus Hernia	3.33 %	7
Hiatus Hernia	4.28 %	9
Oesophagitis	1.90 %	4
Severe Oesophagitis	2.38 %	5
Barrett's Oesophagus	3.33 %	7
Behaviour Related		
Smokers	6.19 %	13
Alcohol Dependent	1.90 %	4
Unwilling to take supplements	2.85 %	6
Vegetarian	1.42 %	3
Age Related		
Age < 16	1.42 %	3
Age < 30	2.85 %	6
Young Age	2.85 %	6
Age > 60	1.90 %	4
Young Women	4.76 %	10
Bowel Related		
Inflammatory Bowel Disease	2.38 %	5
Crohn's Disease	1.42 %	3
Significant intra-abdominal adhesions		8
Miscellaneous		
Active Severe Psychiatric Issues	2.85 %	6
Cirrhosis of the Liver	1.90 %	4
Family history of Gastric Cancer	2.85 %	6
Previous Peptic Ulcer	1.42 %	3
Gastric Polyps	1.42 %	3
BMI < 35	2.38 %	5
BMI < 40	2.38 %	5
Anaemia	2.38 %	5
Diarrhoea	2.38 %	5

Helicobacter Pylori Positivity	1.90 %	4
Previous Gastric/Bariatric Surgery	3.33 %	7

Table 5: Bougie Sizes used for Construction of Gastric Pouch

Bougie Sizes Used	Percentage	Number of Responses
28 Fr	1.52 %	3/197
32 Fr	6.6 %	13/197
34 Fr	10.6 %	21/197
36 Fr	46.2 %	91/197
38 Fr	11.7 %	23/197
40 Fr	8.1 %	16/197
42 Fr	2.5 %	5/197

Table6: Fixed Lengths of the Bilio-Pancreatic Limb used

Fixed Length of the Bilio-Pancreatic Limb Used	Percentage	Number of Responses
150 cm	10.8 %	8/74
175 +/-5 cm	13.5 %	10/74
200 cm	62.1 %	46/74
250 cm	4.0 %	3