Mini Talk| Bariatric/Foregut

Bariatric Surgery versus Medical Weight Loss Therapy for Class II Obesity – A Retrospective Cohort Study

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Introduction/Background

The purpose of this study is to compare the effectiveness and outcome profiles of bariatric surgery, medical weight loss therapy, and combined surgical and medical weight loss interventions for patients with obesity. The prevalence of obesity has increased markedly over the last two decades, costing billions of extra healthcare dollars and leading to significantly more preventable and premature deaths. While both surgical and medical weight loss treatment options are available, few studies exist comparing these options in patients with obesity, with even fewer comparing outcomes of either treatment modality alone versus combined therapy.

Methods:

A retrospective cohort analysis was carried out of 119 patients with Class II obesity (BMI >35) undergoing elective weight-loss surgery, medical weight loss therapy, or both at a single institution between January 2020 - August 2022. Bariatric surgery (Roux-en-Y gastric bypass, gastric sleeve, or gastrojejunostomy revision) was performed by a single surgeon and medical therapy (appetite suppressants or glucagon-like peptide inhibitors) was administered by a single endocrinologist at Houston Methodist Hospital in Houston, Texas. Data collection included patient demographics, BMI (kg/m2), medical problems, surgical complications, length of stay, readmissions, medicine side effects, laboratory values, and outcomes. Differences across groups were determined by Fisher's exact test for categorical variables. A p value of

Results:

Out of 119 patients analyzed, 37 underwent bariatric surgery (13 robotic Roux-en-Y gastric bypasses (RNYGB), 21 robotic sleeve gastrectomies, and three robotic gastrojejunostomy revisions), 76 underwent medical therapy, and six underwent both. Hypertension, diabetes mellitus, dyslipidemia, and GERD were among the most common obesity-associated medical problems identified across cohorts, with nearly half of these patients requiring dual anti-hypertensive or dual anti-hyperglycemic drug therapy. Sleeve gastrectomy patients exhibited significantly shorter operative times (116 vs 178 minutes; p=0.001) and less estimated blood loss (22.5 vs. 33.1 mL; p=0.01) compared to RNYGB patients. Patients undergoing bariatric surgery achieved significantly greater reductions in BMI compared to those undergoing medical therapy (5.49 vs 3.04 kg/m2; p=0.001). Patients undergoing both bariatric surgery and medical therapy did not exhibit significantly greater reductions in BMI compared to patients undergoing either treatment modality alone (p>0.12 for both).

Conclusion

In conclusion, bariatric surgery alone may offer greater reduction in BMI in patients with Class II obesity compared to medical weight loss therapy alone or combined medical and surgery treatment. Future studies are necessary to further compare the effectiveness of single versus combined weight loss treatment modalities.

Mini Talk| Bariatric/Foregut

Endoscopic gastric pouch revision versus medical management for treatment of weight recidivism after Roux en-Y gastric bypass

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Introduction/Background

Bariatric surgery is one of the most effective tools to combat the growing obesity epidemic, and Roux-en-y Gastric (RYGB) bypass is one of the most effective bariatric procedures. Despite its effectiveness, weight regain remains a significant concern. Treatment options for patients that experience weight recidivism include medical management and endoscopic revision with gastric pouch plication. The purpose of this study was to compare the effectiveness of medical management to endoscopic pouch revision for the treatment of weight recidivism after RYGB.

Methods:

A retrospective review was conducted for all patients who underwent endoscopic revision and medical management for treatment of weight recidivism after RYGB between January 2019 and July 2022. Multivariable regression analysis was used to assess adjusted differences in weight loss and BMI between the two groups at 1 month, 3 months, and 6 months.

Results:

Thirty-eight total patients (33 females, 5 males) with a mean age of 50.4 years were identified. There were 26 patients in the endoscopic revision group and 12 patients in the medical management group. There was no difference in age (p=0.11) and sex (p=0.55) between the two groups. A significantly higher proportion of patients in the medical management group had musculoskeletal disease (p

Conclusion

Endoscopic revision of the gastric pouch results in higher mean percent weight loss and lower mean BMI than medical management for the first 6 months of treatment.

Mini Talk| Cardiac Surgery

Thoracic Aortic and Aortic Valve Intervention Outcomes in Adult Turner Syndrome Patients: A 10-Year Statewide Review

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Introduction/Background

Turner's Syndrome (TS) is associated with an increased prevalence of congenital and acquired heart disease, and many patients undergo cardiovascular procedures during early childhood. As adults, these patients remain at risk for other serious cardiovascular pathologies, especially including the thoracic aorta and aortic valve, although their outcomes have not been well described. This study aims to analyze the outcomes of adult TS patients undergoing thoracic aortic interventions (TAI) and aortic valve interventions (AVI), as compared to those without genetic syndromes.

Methods:

This is a retrospective analysis of the Texas Inpatient Discharge Public Use Files which capture almost all discharges in the state of Texas. All discharges of females ≥ 18 years of age who underwent TAI and/or AVI from 01/01/2009 to 12/31/2019 were identified. ICD-9 and ICD-10 diagnosis and procedure codes were used to identify TS, to exclude other genetic syndromes, and to identify TAI and AVI, as well as comorbidities and outcomes. Descriptive, univariate, and propensity score matching analyses were utilized.

Results:

A total of 22503 female TAI/AVI discharges were identified, of which 44 (0.2%) had a TS diagnosis. Discharges of TS patients were younger (p

Conclusion

Thoracic aortic and aortic valve interventions are among the most common cardiac procedures adult TS patients undergo. It is known that TS patients undergo these procedures at higher rates than the general population, but their comparative outcomes have not been described. Our data reveal that after adjusting for potential confounding, TS itself seems to confer a higher risk of in-hospital mortality for the same cardiac lesions and procedures. More research is needed in order to further delineate the factors driving these outcomes and provide better prevention and surveillance strategies for adult TS patients.

Outcomes after Propensity Score Matching

	TS n = 44	Non-TS n = 88	p-value
Postoperative Complications, n (%)			
Pleural Effusion	7 (15.9)	8 (9.1)	.245
Composite Major Infection	2 (4.5)	5 (5.7)	1
ECMO	1 (2.3)	0 (0.0)	.333
MV96	6 (13.6)	5 (5.7)	.179
ARF	5 (11.4)	3 (2.3)	.116
In-Hospital Mortality, n (%)	7 (15.9)	1 (3.4)	.002
Length of Stay, median [IQR]	7 [5-11]	7 [5-12]	.684

Mini Talk| Cardiac Surgery

Surgical Characteristics Associated with Best Survival in Treatment of Atrio-Esophageal Fistula

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Introduction/Background

Atrio-esophageal fistula (AEF) is a rare and morbid complication of ablation therapy for atrial fibrillation. Surgery provides the best survival; however, it is not clear which surgical approach provides the best success rate.

Methods:

We performed a retrospective analysis of cases in the literature and in our institution. We characterized patients by presenting symptoms, diagnostic modality, surgical therapy with different approaches, and survival.

Results:

There was a total of 193 patients, with 190 patients from 111 papers in the literature and three patients from our institutional database (2011-2021). The most common presenting symptoms included fever/chill (69%) and the neurological deficiency (60%). The overall survival for this cohort was 46%. Patients who had surgery had significantly improved survival compared to patients who did not have surgery (71% vs. 13%, p

Conclusion

Patients diagnosed with AEF should undergo surgical intervention. Patch repair of the left atrium and primary repair of the esophagus with muscle flap in between with CPB utilization is the most common successful repair. CPB allows for better debridement/repair of the left atrium which may provide a survival advantage in the treatment of AEF.

Mini Talk| Colon and Rectal Surgery

Augmented surgical repair of complex anal fistula using autologous platelet-rich plasma and acellular biologic matrix – a pilot study

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Introduction/Background

Complex anal fistulas remain a blight for the colorectal surgery community to treat effectively. Even when performed by seasoned surgeons, sphincter-sparing operations entail a roughly 25-30% risk of fistula recurrence. Various biologic agents have been investigated for their ability to augment soft tissue wound healing. The bioactive factors and provisional matrix provided by platelet-rich plasma (PRP) along with its autologous nature and anti-inflammatory, anti-bacterial properties make it an attractive candidate. Biologic acellular matrices (AM) act as a scaffold for recruited cells to build upon and have been commercially available for decades. Our study is the first to investigate the combination of PRP and AM to augment surgical treatment of complex fistulas. The purpose of this pilot study is to investigate the safety and feasibility of this technique before an upcoming larger, appropriately powered, randomized clinical trial.

Methods:

We performed a retrospective review of patients who underwent complex anal fistula repair by ligation of intersphincteric fistula tract (LIFT) or advancement flap augmented by autologous PRP and AM. Patients received ACell Micromatrix® mixed with 5-8cc of autologous PRP obtained using an Arthrex Angel® kit. Half of the mixture was reconstituted and injected at the internal closure site, tissue bed of a flap, and along the fistula tract just outside the wall, while the other half was mixed at a 1cc:100g ratio to make a paste used to fill the fistula lumen. The primary endpoint was safety, with avoidance of adverse events (AE), and secondary endpoint was fistula recurrence. Patients were followed at regular intervals and clinical exam including anoscopy. Patients with a recurrent fistula, blind-ending sinus, multiple branching tracts, history of preceding horseshoe abscess, or any fistula associated with immunosuppression were classified as high-risk. Institutional review board approval was obtained.

Results:

In total, 11 patients received augmented repair by a single surgeon with an average follow-up of 542 (+221) days. Six cases were considered high risk. No treatment-specific AE occurred. Three patients suffered recurrence (2 LIFT, 1 flap)- 2/5 average risk patients and only 1/6 high risk patients. Clinicians anecdotally noted shorter times to external healing and drainage cessation, and less significant postoperative pain and narcotic use compared to historical controls without biologic agents, but these were not defined outcome endpoints.

Conclusion

This pilot study demonstrates a new technique of concurrently applying PRP and AM to augment complex fistula repair. Although successful repair may be increased in high-risk patients and any clinical conclusions are limited by the small number of patients, it appears to be safe. Adequately powered, forthcoming pragmatic studies are required to define the clinical effectiveness.

	Cysts 1-10mm	Cysts 11-20mm	p value
Number	110	176	n/a
Sex (%)	69 F (62.7) / 41 M (37.3)	108 F (61.4) / 68 M (38.6)	0.82
Median Age at Initial Visit (yrs, Range)	69.7 (32.7-85.6)	69.4 (37-87.4)	0.99
Median Initial Cyst Size (mm, Range)	7.5 (3-10)	14.0 (4-20)	**<0.001**
Median Latest Cyst Size (mm, Range)	8.0 (3-30)	15 (5-51)	**<0.001**
Median Cyst Change (mm, Range)	0 (-4-23)	1.0 (-10-39)	0.44
Median F/u Time (months, Range)	24.7 (6.3-136)	29.1 (5.6-222)	0.19
Endoscopic Ultrasound			
Number of Patients (%)	18 (16.4)	46 (26.1)	0.054
Median Time from Initial Visit (months, Range)	10.5 (0-89.2)	6.6 (0-134)	0.91
Fine Needle Aspiration			
Number of Patients (%)	8 (7.3)	30 (17.0)	**0.02**
Median Time from Initial Visit (months, Range)	5.9 (0.33-89.2)	12.6 (0-134)	0.61
Surgery			
Number of Patients (%)	1 (0.9) - PDAC	5 (2.8) 1 PDAC 2 HGD 2 low grade dysplasia	0.27
Median Time from Initial Visit (months, Range)	19.7	50.7 (13.9-113)	0.53
Malignancy			
Number of Patients (%)	1 (0.9) - PDAC	5 (2.8) 3 PDAC 2 HGD	0.27
Mean Time from Initial Visit (months, Range)	19.7	30 (13.9-50.7)	0.63
	Cysts 1-10mm	**Cysts 11-20mm**	
Changes at 1 Year Follow-up (%) Qualitative	2 (1.9% of 108) 3 - Growth >5mm 2 - MPD 5-9.9mm 1 - CA19-9>37U/L	9 (5.2% of 172) 8 - Growth >5mm 1 - Nodule<5mm 1 - PD 5-9.9mm	
Changes at 3 Year Follow-up (%) Qualitative	2 (4.3% of 46) 2 - Growth >5mm	11 (13.1% of 84) 10 - Growth >5mm 2 - Nodule <5mm 1 - CA19-9>37U/L	
Changes at 5 Year Follow-up (%) Qualitative	1 (5.3% of 19) 1 - "Possible nodularity"	6 (13.2% of 38) 5 - Growth >5mm 1 - PD 5-9.9mm 1 - CA19-9>37U/L	

Mini Talk| Colon and Rectal Surgery

Outcome comparison between End and Loop Stoma Reversal

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Introduction/Background

Colectomy, either emergent or elective, may require diversion. This may be achieved with a Hartmann's procedure (colectomy with end colostomy) or with colectomy, primary anastomosis, and proximal loop ileostomy or loop colostomy. There is limited evidence regarding comparisons of outcomes after stoma reversal. We hypothesized that outcomes are worse after Hartmann's than loop reversal.

Methods:

We performed an analysis of the 2019 American College of Surgeons National Surgical Quality Improvement Program (NSQIP), using CPT codes to identify patients who underwent either a loop (ileostomy or colostomy) reversal (CPT 44227, 44620, or 44625) or Hartmann's reversal (CPT 44626). Primary outcome was mortality; secondary outcomes included operative time, intraoperative transfusion, superficial and deep surgical site infection (SSI), reoperation, and length of stay (LOS).

Results:

There were 7,253 stoma reversals, including 5,585 loop reversals and 1,668 Hartmann's reversals. The Hartmann's reversal group was older (57±15 vs 59±14, p

Conclusion

Patients undergoing loop stoma reversal have better outcomes than those who undergo a Hartmann's reversal.