Participating in the Webinar

All attendees will be muted and will remain in Listen Only Mode.

Type your questions here so that the moderator can see them. Not all questions will be answered but we will get to as many as possible.

How to Receive CME and MOC Points

LIVE VIRTUAL GRAND ROUNDS WEBINAR
ACG will send a link to a CME & MOC evaluation to all attendees on the live webinar.

ABIM Board Certified physicians need to complete their MOC activities by December 31, 2022 in order for the MOC points to count toward any MOC requirements that are due by the end of the year. No MOC credit may be awarded after March 1, 2023 for this activity.
MOC QUESTION

If you plan to claim MOC Points for this activity, you will be asked to: Please list specific changes you will make in your practice as a result of the information you received from this activity.

Include specific strategies or changes that you plan to implement. THESE ANSWERS WILL BE REVIEWED.

ACG Virtual Grand Rounds

Join us for upcoming Virtual Grand Rounds!

Week 6
Current and Emerging Options for the Diagnosis and Management of EoE
Jennifer Horsley-Silva, MD
February 10, 2022 at Noon Eastern and NEW! 8pm Eastern!

Week 7
Update: Prognostic Models in PSC-How Best to Inform our Patients
Mark W. Russo, MD, MPH, FACG
February 17, 2022 at Noon Eastern and NEW! 8pm Eastern!

Visit gi.org/ACGVGR to Register
Disclosures:

**Speaker:**
Violeta Popov, MD, PhD, FACG

Dr. Popov, faculty for this educational event, has no relevant financial relationship(s) with ineligible companies to disclose.

**Moderator:**
Marianna Papademetriou, MD

Dr. Papademetriou, moderator for this educational event, has no financial relationship(s) with ineligible companies to disclose.

Weight Loss Interventions for Patients with Non-Alcoholic Fatty Liver Disease

Violeta Popov, MD, PhD, FACG
Director of Bariatric Endoscopy, NY VA Harbor Healthcare
New York University School of Medicine

@PopovVioleta
Objectives:

- Recognize the importance of weight reduction in patients with NAFLD
- Discuss the impact of anti-obesity medications and bariatric surgery on NAFLD
- Review the data supporting endoscopic bariatric therapies in NAFLD
Risk of Metabolic Comorbidities Increases with BMI

### Association of BMI and the Relative Risk of Metabolic Comorbidities

<table>
<thead>
<tr>
<th></th>
<th>PREVALENCE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>BMI &lt; 25 (%)</td>
</tr>
<tr>
<td>Hypertension</td>
<td>18.1</td>
</tr>
<tr>
<td>Diabetes</td>
<td>2.4</td>
</tr>
<tr>
<td>Dyslipidemia</td>
<td>8.9</td>
</tr>
<tr>
<td>Metabolic Syndrome</td>
<td>13.6</td>
</tr>
<tr>
<td>Sleep apnea</td>
<td>2.4</td>
</tr>
</tbody>
</table>

### Association of Weight Gain and the Relative Risk of Diabetes

![Graph showing the relative risk of diabetes with weight gain](https://example.com/diabetes_graph.png)


---

**How Much Weight Loss Is Needed To Reduce Risk?**

<table>
<thead>
<tr>
<th></th>
<th>&lt;5%</th>
<th>5-10%</th>
<th>&gt;10%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diabetes</td>
<td>No change at 2 years in HbA1c</td>
<td>Initial reduction of HbA1c; back to baseline at 4 years</td>
<td>Sustained long-term reduction in HbA1c</td>
</tr>
<tr>
<td>NASH/NAFLD</td>
<td>Steatosis improved in 35%</td>
<td>Steatosis improved in 65% Fibrosis regression in 38%</td>
<td>Steatosis improved in 100% Fibrosis regression in 81% NASH resolution in 90%</td>
</tr>
<tr>
<td>% of subjects able to achieve</td>
<td>70%</td>
<td>12%</td>
<td>10%</td>
</tr>
</tbody>
</table>

Romero-Gomez M et al. J Hepatol. 2017

---

American College of Gastroenterology
**Natural History of NAFLD**

- **NAFLD**
  - 20% progresses to **NASH**
  - 80% progresses to **Fatty Liver**
  - NASH:
    - 11% progress to cirrhosis
    - Increased mortality: CV, Cancer, Liver-related
  - Fatty Liver:
    - Minimal progression to cirrhosis
    - Increased risk of CV
    - 2-3 fold increased risk of diabetes

- **HCC**
  - 7% over 6.5 yrs
  - 11% over 8 yrs
  - 31% over 8 yrs

- **Cirrhosis**
  - Decompensation

---

**Clinical Factors Associated with NASH and More Advanced Liver Disease**

- Normal Liver → Steatosis → NASH → Fibrosis → Cirrhosis → Hepatocellular Carcinoma

**Risk Factors for More Advanced Disease:**
- Metabolic Syndrome
- Insulin resistance
- Age
- Female Gender
- Hispanic
- AST/ALT ratio >0.8
- Increased Ferritin
- PNPLA3
Fibrosis Stage Predicts Long-Term Outcomes in NAFLD

Other histological features were not associated with long-term overall mortality, liver transplantation, and liver-related events

Liver stiffness by magnetic resonance elastography predicts future cirrhosis, decompensation, and death in NAFLD

Weight Loss Can Reverse NASH

- Steatosis 35-100%
  - Weight loss ≥ 3%
- Ballooning/Inflammation 41-100%
  - Weight loss ≥ 5%
- NASH Resolution 64-90%
  - Weight loss ≥ 7%
- Fibrosis 45%
  - Weight loss ≥ 10%

Villar-Gomez et al, Gastroenterology 2015
AASLD/EASL Guidelines 2018
Obesity Treatment Guide

<table>
<thead>
<tr>
<th>Intervention</th>
<th>BMI Category (kg/m)</th>
<th>Effectiveness</th>
<th>Complications</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>25-26.9</td>
<td>✔ ✔ ✔ ✔ ✔</td>
<td></td>
</tr>
<tr>
<td></td>
<td>27-29.9</td>
<td>✔ ✔ ✔ ✔ ✔</td>
<td></td>
</tr>
<tr>
<td></td>
<td>30-34.9</td>
<td>✔ ✔ ✔ ✔ ✔</td>
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</tr>
<tr>
<td></td>
<td>35-39.9</td>
<td>✔ ✔ ✔ ✔ ✔</td>
<td></td>
</tr>
<tr>
<td></td>
<td>≥40</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

TOS Obesity Treatment Guidelines 2013

Weight Loss Interventions: Lifestyle

- Weight loss is hard to achieve/sustain through lifestyle changes alone:
  - 76,704 men and 99,791 women with obesity followed 2004-2014 in the UK Clinical Practice Research Datalink
  - 1 in 701 men and 1 in 408 women with obesity class 2 achieved normal weight
  - 1 in 8 had probability of 5% weight loss in 1 year
  - 78% regained the weight within 5 years

Semaglutide in NAFLD, phase 2 trial

- Semaglutide is a GLP-1 agonist
- For treatment of diabetes: 0.5 mg sq weekly
- For treatment of obesity: 2.4 mg sq weekly

320 patients with NASH fibrosis stage 1,2,3; BMI >25 kg/m²

Semaglutide doses: 0.1 mg/0.2 mg/0.4 mg or Placebo 0.1/0.2/0.4 mg

Liver Biopsy at 72 weeks

Endpoints:
- Resolution of NASH with no worsening of fibrosis
- Improvement of at least one fibrosis stage with no worsening of NASH


Semaglutide in NAFLD, phase 2 trial

Weight loss:
- Dose 0.1mg: 5 % TBWL
- Dose 0.2mg: 9 % TBWL
- Dose 0.4mg: 13 % TBWL
- plateau at 44 weeks

Adverse events (0.4mg dose)
- Nausea 42%; Vomiting 15%
- Constipation 22%
- Discontinuation 7%
- Serious AE: 15 to 19% across all doses

Sema led to higher odds of NASH resolution without worsening fibrosis, but % of patients who had an improvement in fibrosis stage was not significantly higher
Bariatric Surgery

Lap-Band

- 10.6% total body weight loss

Roux-en-Y Bypass

- 27.5% total body weight loss

Sleeve gastrectomy

- 17.8% total body weight loss

- mortality is 0.2-1%
- serious adverse events are greater than 26%
- significant weight regain in greater than 25%
- reoperation rate is 4.3-8.3%


Bariatric Surgery Is More Effective Than Medical Therapy For Treatment Of Diabetes: The STAMPEDE Trial

HBA1C, %

- Medical therapy
- Sleeve gastrectomy
- Gastric bypass

BMI change

- Medical therapy
- Sleeve gastrectomy
- Gastric bypass

% Patients Not Taking Anti-Diabetic Medications

Bariatric Surgery Can Lead to Long-Term Resolution of NASH

Lassailly, Caliazzo, Mathurin, et al. Gastroenterology 2020

Subjects who developed ETOH abuse pre or after surgery were excluded (11 in the cohort; 2 died of alcohol-related causes)

Subjects with biopsy-proven NASH and obesity

66% gastric bypass
22% lap band
12% gastric sleeve

180 with biopsy

3 died post-op
3 bands removed
11 lost to follow-up

64 with biopsy
Year 5

Year 1

125 with biopsy

66% gastric bypass
22% lap band
12% gastric sleeve

Subjects who developed ETOH abuse pre or after surgery were excluded (11 in the cohort; 2 died of alcohol-related causes)

Bariatric Surgery Can Lead to Long-Term Resolution of NASH

Resolution of NASH according to weight loss

Evolution of Fibrosis after Bariatric Surgery

Lassailly, Caliazzo, Mathurin, et al. Gastroenterology 2020
Bariatric Surgery, Liver Fibrosis, and Non-alcoholic Fatty Liver Disease - a Systematic Review and Meta-Analysis

457 abstracts reviewed; 23 studies selected

Bariatric Surgery Improves Steatohepatitis

27% of subjects with initial fibrosis had worsening of fibrosis

12% of subjects who had no fibrosis initially developed fibrosis over time

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Liver Fibrosis Progression Depends On Time Of Follow-up:

Subgroup analysis:

• Follow-up < 18 mo:
  10% had worsening in fibrosis (95% CI 4, 25)

• Follow-up > 18 mo:
  36% had worsening in fibrosis (95% CI 21, 55), P=0.004 for difference

Odds Of Significant Alcohol Use After Surgery Compared To Prior To Surgery

<table>
<thead>
<tr>
<th>Model</th>
<th>Study name</th>
<th>Odds ratio</th>
<th>Lower limit</th>
<th>Upper limit</th>
<th>p-Value</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Mitchell, 2015</td>
<td>0.64</td>
<td>0.45</td>
<td>0.91</td>
<td>0.01</td>
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<tr>
<td></td>
<td>Engel, 2015</td>
<td>55.00</td>
<td>14.97</td>
<td>202.11</td>
<td>0.00</td>
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<tr>
<td></td>
<td>Lent, 2013</td>
<td>1.81</td>
<td>1.32</td>
<td>2.49</td>
<td>0.00</td>
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<tr>
<td></td>
<td>Conason, 2013</td>
<td>1.08</td>
<td>0.64</td>
<td>1.82</td>
<td>0.76</td>
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<td></td>
<td>King, 2012</td>
<td>1.53</td>
<td>1.30</td>
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<td></td>
<td>Sogg, 2011</td>
<td>1.28</td>
<td>1.03</td>
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<tr>
<td></td>
<td>Wiedemann et al., 2013</td>
<td>5.47</td>
<td>2.97</td>
<td>10.09</td>
<td>0.00</td>
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<tr>
<td></td>
<td>Tae 2014</td>
<td>0.59</td>
<td>0.25</td>
<td>1.36</td>
<td>0.21</td>
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<tr>
<td></td>
<td>Ertelt et al. 2008</td>
<td>1.19</td>
<td>0.53</td>
<td>2.66</td>
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<tr>
<td></td>
<td>Spadola 2016</td>
<td>1.32</td>
<td>0.72</td>
<td>2.40</td>
<td>0.36</td>
</tr>
<tr>
<td></td>
<td>Wee, 2014</td>
<td>0.86</td>
<td>0.63</td>
<td>1.17</td>
<td>0.34</td>
</tr>
</tbody>
</table>

**Pooled Odds Ratio 1.5 (1.07, 2.11), p=0.02**

N studies=11, n=3,370 subjects, I² =89%, Tau² =0.3
Risk of Suicide Is Increased After Bariatric Surgery

Risk of suicide compared to BMI matched control group

<table>
<thead>
<tr>
<th>Study name</th>
<th>Rate ratio</th>
<th>Lower limit</th>
<th>Upper limit</th>
<th>p-Value</th>
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</thead>
<tbody>
<tr>
<td>Adams 2007</td>
<td>3.00</td>
<td>1.09</td>
<td>8.25</td>
<td>0.03</td>
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<tr>
<td>Buusetto 2007</td>
<td>3.00</td>
<td>0.12</td>
<td>73.64</td>
<td>0.50</td>
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<tr>
<td>Gribsholt 2016</td>
<td>2.79</td>
<td>1.45</td>
<td>5.36</td>
<td>0.00</td>
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<tr>
<td>Kovacs 2016</td>
<td>0.79</td>
<td>0.23</td>
<td>2.71</td>
<td>0.70</td>
</tr>
<tr>
<td>Neovius_1 2018</td>
<td>3.00</td>
<td>0.81</td>
<td>11.08</td>
<td>0.10</td>
</tr>
<tr>
<td>Neovius_2 2018</td>
<td>5.16</td>
<td>2.02</td>
<td>13.22</td>
<td>0.00</td>
</tr>
<tr>
<td>Adams 2017</td>
<td>3.09</td>
<td>0.60</td>
<td>15.91</td>
<td>0.18</td>
</tr>
<tr>
<td>Lent 2017</td>
<td>10.42</td>
<td>0.58</td>
<td>188.42</td>
<td>0.11</td>
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<tr>
<td>Fixed</td>
<td>2.87</td>
<td>1.93</td>
<td>4.28</td>
<td>0.00</td>
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<tr>
<td>Random</td>
<td>2.87</td>
<td>1.93</td>
<td>4.28</td>
<td>0.00</td>
</tr>
</tbody>
</table>

RYGB has higher suicide rate than LapBand (LAGB)

Liver Failure Due to Malnutrition

Acute Liver Failure Secondary to Bariatric Surgery: An Indication for Liver Transplantation

Hepatic Failure After Bariatric Surgery: A Systematic Review
The Bottom Line...

- Lifestyle/weight loss medications *alone* are hard to maintain, low efficacy
- There is no approved pharmacotherapy to treat NAFLD/NASH
- Surgery *alone* cannot contain the obesity/NAFLD epidemic:
  - Only 1% of eligible patients undergo surgery

- New therapeutic options that are more effective than medications and less invasive than surgery are needed

Martin M et al. Surg Obes Rel Dis 2010; 6(1); 8-15.

Endoscopic Bariatric Therapies (EBTs)
Intragastric Balloons

- Three FDA-approved devices:
  - 2 fluid-filled balloons, 1 gas-filled
- Indicated for BMI 30-40 kg/m²

- Common adverse events:
  - Nausea/vomiting
  - GERD worsening
  - Early removal 10% in fluid-filled

- Exclusion criteria:
  - Prior Gastric Surgery
  - Large Hiatal Hernia (>4 cm)
  - Use of Anti-platelet agents
  - Active ulcers; Advanced liver disease

Extensive Global Experience with Low Adverse Events:
Meta-analysis of 55 Published Studies (over 3,000 patients)


American College of Gastroenterology
Impact of IGB on Metabolic Outcomes

- FBG by 12.4 mg/dL than controls
- HGA1C by 1.1% than controls
- Odds ratio for DM2 resolution 1.4 (1.3, 1.6)
- Waist circ. by 4.1 cm than controls
- SBP by 3.4 mmHg than controls (p is ns)
- by 9.1 mmHg from baseline
- DBP by 2.9 mmHg than controls
- Odds ratio for HTN resolution 2.0 (1.8, 2.2)


Effect of Intragastric Balloon on Liver Enzymes: ALT, AST and GGT Decrease After IGB

<table>
<thead>
<tr>
<th>Change in ALT, U/L, with IGB treatment for 6 months</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forano</td>
</tr>
<tr>
<td>Ricci</td>
</tr>
<tr>
<td>Stirac</td>
</tr>
<tr>
<td>Tai</td>
</tr>
<tr>
<td>Nikola</td>
</tr>
<tr>
<td>Donadio</td>
</tr>
<tr>
<td>Zentwiek</td>
</tr>
<tr>
<td>Seliko</td>
</tr>
<tr>
<td>Folli</td>
</tr>
<tr>
<td>RIE Model</td>
</tr>
</tbody>
</table>

-9.01 [-13.10, -6.72]

Intragastric Balloons: Effect on Liver Histology

• 20 patients with biopsy-proven NASH
• EUS-guided core liver biopsy; MRE
• All patients with early fibrosis (stages 1A, 1B, and 1C) regressed a fibrosis stage
• 65% of patients achieved resolution of NASH on biopsy
• 80% of patients had a ≥2 points improvement in NAFLD activity score

Bazerbachi F, et al. DDW 2018

IGB and Liver Transplantation

Table 1 Details of patients

<table>
<thead>
<tr>
<th>S. no</th>
<th>Age</th>
<th>BMI before balloon placement</th>
<th>Weight loss (% of weight)</th>
<th>BMI before liver transplant</th>
<th>Balloon placement to transplant interval</th>
<th>Type of balloon</th>
<th>Etiology of cirrhosis</th>
<th>CTP</th>
<th>MELD</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>61</td>
<td>M</td>
<td>48.3</td>
<td>24 kg (18.8)</td>
<td>39.2</td>
<td>6 months</td>
<td>BB</td>
<td>Cryptogenic</td>
<td>9</td>
</tr>
<tr>
<td>2</td>
<td>43</td>
<td>M</td>
<td>38.7</td>
<td>5.4 kg (5)</td>
<td>33.6</td>
<td>25 days</td>
<td>BB</td>
<td>ALD</td>
<td>9</td>
</tr>
<tr>
<td>3</td>
<td>45</td>
<td>F</td>
<td>39.2</td>
<td>13 kg (13.9)</td>
<td>33.7</td>
<td>5 months</td>
<td>BB</td>
<td>HCV</td>
<td>9</td>
</tr>
<tr>
<td>4</td>
<td>45</td>
<td>M</td>
<td>31</td>
<td>15 kg (12)</td>
<td>44.8</td>
<td>1 months</td>
<td>Spatz</td>
<td>HBV, HCC</td>
<td>9</td>
</tr>
<tr>
<td>5</td>
<td>46</td>
<td>F</td>
<td>54.5</td>
<td>none</td>
<td>Wait list</td>
<td>6 months</td>
<td>Spatz</td>
<td>Cryptogenic</td>
<td>8</td>
</tr>
<tr>
<td>6</td>
<td>43</td>
<td>M</td>
<td>42.5</td>
<td>36 kg (26.4)</td>
<td>Wait list</td>
<td>9 months</td>
<td>Spatz</td>
<td>Cryptogenic</td>
<td>8</td>
</tr>
<tr>
<td>7</td>
<td>46</td>
<td>M</td>
<td>38.2</td>
<td>22 kg (21.1)</td>
<td>30.1</td>
<td>2 months</td>
<td>Spatz</td>
<td>HBV, HCC</td>
<td>5</td>
</tr>
<tr>
<td>8</td>
<td>44</td>
<td>M</td>
<td>35.6</td>
<td>10 kg (10.4)</td>
<td>Balloon removed after 6 weeks, patient opted out from list due to personal reasons</td>
<td>1 months</td>
<td>Spatz</td>
<td>Cryptogenic</td>
<td>11</td>
</tr>
</tbody>
</table>

BMI: body mass index, CTP: Child-Turcotte-Pugh, MELD model for end-stage liver disease, BB: bioenteric intragastric balloon, ALD: alcoholic liver disease.

Choudhary NS, et al. Indian J Gastroenterol
Intragastric Balloon in Practice: Partnership with a Behavioral Modification Program

- Indications: patients with BMI 30 – 40 kg/m² who are not candidates for bariatric surgery or do not want to undergo surgery
- Exclude patients with prior stomach surgery
- 12-13 months minimum commitment with the program
- Timeline:

```
    0  6  12
```

- Behavioral Program participation/ Nutritionist visits

**Gastric Remodeling (or Endoscopic Gastroplasty)**

- Mimics surgical gastroplasty
- Suturing devices approved for tissue apposition, not obesity
- Weight loss of 15% at 6-12 months
- Serious AE in 2-10%:
  - Perigastric fluid collections
  - Pulmonary embolism
  - Pneumoperitoneum

Lopez-Nava, et al. DDW 2016
Jirapynio, Thompson CC. Video GIE 2018
Endoscopic Gastroplasty Efficacy

- A meta-analysis of 8 studies, 1172 subjects:
  - Pooled 16.49% weight loss at 12 months

- First data in adolescents:
  - 109 subjects, age 17±2.2 yrs, BMI of 33±4.7
  - 16.2% ± 8.3% weight loss at 12 months

Metabolic Effects of ESG:
Improvements in DM and non-invasive NAFLD parameters

39

40
Endoscopic Gastroplasty and Liver Stiffness

- Case series of veterans with ESG, followed by transient elastography
- Baseline BMI 36.8 (± 2.9)
- CAP score decreased from 319 (± 20.5) dB/m to 182.3 (± 54.5) dB/m
- Fibrosis score decreased from 6.6 (± 1.6) kPa to 4.5 (± 1.6) kPa from baseline

Sidhu S, Lin E, Popov V. DDW 2020

FDA-Approved Therapies: Aspiration Therapy

- FDA approved in 2016
- Approved for age 22-65
- Indicated for BMI of 35 to 55 kg/m²
- Approved for long-term use
- Requires a nutritionist follow-up
- Adverse events in 3.6 %: pain/granulation tissue at PEG site

Thompson C et al, Am J Gastroenterology 2017
Thompson C, et al. SOARD 2019
PATHWAY* Study: Weight Loss Results


PATHWAY Study: Long-Term Results

4-year weight loss results

%TBWL

Weight loss, kg

Thompson CC, et al. SOARD 2019
Small Bowel Therapies: Duodenal-Jejunal Bypass Sleeve

- Duodeno-jejunal liner open at both ends
- Pooled %EWL was 35% (25, 46) after 12 months of DJ liner
- Pooled HbA1c decrease was -1.1% greater in the DJ sleeve group than in controls

Duodenal-Jejunal Bypass Sleeve Improved Liver Enzymes

- 17 obese subjects treated with DJS for 24 weeks
- Liver tests decreased:
  - ALT: from 54 to 28 U/L, P<0.05
  - AST: from 35 to 28 U/L
  - GGT: from 66 to 35 U/L, P<0.05
- Results were maintained 6 months after removal of the device
- Presently, multi-center trial is undergoing in the US
Small Bowel Therapies: Duodenal Mucosal Resurfacing

- Thermal ablation of the duodenal mucosa with a catheter
- Most studies in diabetic patients with obesity
- Modest weight loss

Rajagopalan H et al. Diabetes Care 2016
Galval Neto M et al. Video GIE 2019

Duodenal Mucosal Resurfacing Open Label Trial

- 9 countries, 37 pts

Duodenal Mucosal Resurfacing Randomized Trial

- First sham-controlled, double-blind, prospective study
- 11 sites (9 in EU, 2 in Brazil), 108 patents
- Eligible patients (HbA1c of 7.5-10%, BMI ≥24 to ≤40kg/m², on ≥1 oral anti-diabetic medication)
- Randomized 1:1 to receive DMR or sham procedure

<table>
<thead>
<tr>
<th></th>
<th>DMR(n=39)</th>
<th>Sham(n=36)</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Change in liver MRI-PDDF baseline – 12 wks</td>
<td>-5.4</td>
<td>-2.4</td>
<td>&lt;0.05</td>
</tr>
<tr>
<td>Weight change baseline-24 wks, kg</td>
<td>-2.4</td>
<td>-1.4</td>
<td>&lt;0.05</td>
</tr>
<tr>
<td>HbA1c change from baseline, 12 wks. %</td>
<td>-0.8</td>
<td>-0.3</td>
<td>&lt;0.05</td>
</tr>
</tbody>
</table>

Bergman J, Deviere J, et al. AASLD 2019

The NAFLD Weight Reduction Program: A Multidisciplinary Team Approach

Multidisciplinary Team

- Procedures:
  - Registered Dietician
  - Bariatric Endoscopist
  - Obesity Medicine Physician
  - Psychologist
  - Hepatologist
  - Social Worker
  - Bariatric Surgeon
  - Primary Care Doctor

- Resources:
  - Training
  - Procedure Unit
  - Aftercare Program
  - Billing

American College of Gastroenterology
Patient Selection

BMI 30-40 kg/m²

- Advanced liver disease (-)
- Prior stomach surgery (+)
- Gastric balloon

BMI 40-55 kg/m²

- Advanced liver disease (+)
- Gas-filled balloon
- Bariatric surgery?

Comprehensive Approach with Multiple Options and Treatment Cycles

<table>
<thead>
<tr>
<th>Intervention</th>
<th>Treatment Cycles Over Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diet, Exercise, Behavior Tx</td>
<td>✔ ✔ ✔ ✔ ✔</td>
</tr>
<tr>
<td>Pharmacotherapy</td>
<td>✔ ✔ ✔ ✔</td>
</tr>
<tr>
<td>Endoscopic therapies</td>
<td>✔ ✔ ✔ ✔</td>
</tr>
<tr>
<td>Surgery</td>
<td>✔ ✔ ✔</td>
</tr>
</tbody>
</table>
Questions?

Speaker: Violeta Popov, MD, PhD, FACG

Moderator: Marianna Papademetriou, MD
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ACG Hepatology Circle

ACG GI Circle
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ACG Functional GI Health and Nutrition Circle

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