**BARRETT’S ESOPHAGUS. TREAT EARLY. REDUCE RISK.**

**SURF CLINICAL TRIAL SUMMARY**

Radiofrequency Ablation vs Endoscopic Surveillance for Patients with Barrett’s Esophagus and Low-Grade Dysplasia: A Randomized Clinical Trial

**STUDY OBJECTIVE**
To investigate whether endoscopic radiofrequency ablation (RFA) could decrease the rate of neoplastic progression in patients with confirmed low-grade dysplasia (LGD).

**STUDY DESIGN**
- European multicenter randomized controlled trial of 36 patients
- Confirmed LGD patients enrolled 1:1 RFA vs. control (Local pathologist diagnosis of LGD was confirmed by expert central pathology panel)
- RFA every 3 months (up to 5 sessions)
- Surveillance biopsies 4-quadrant every 2 cm
- Endoscopic mucosal resection (EMR) for visible lesions
- RFA: 12, 24, 36 months; Control: 6, 12, 24, 36 months
- Central expert GI pathology panel
- Primary outcome: Progression to high-grade dysplasia (HGD)/esophageal adenocarcinoma (EAC)
- Secondary outcomes: Complete response (CR)-dysplasia and intestinal metaplasia (IM); adverse events

**CONCLUSION**
- The rate of neoplastic progression to high-grade dysplasia and adenocarcinoma is significantly reduced by RFA
- RFA therapy should be considered in patients with a confirmed diagnosis of low-grade dysplasia

**ADVERSE EVENTS**
- RFA: 10.1% (13/68) – Stricture 11.8% (8/68), all resolved with endoscopic dilation (median 1 session)
- Mucosal laceration without intervention (4.4%)
- Abdominal pain with hospitalization (1.5%)
- Bleeding after EMR (1.5%)
- Fever and chills after stricture dilation with hospitalization (1.5%)
- Retrosternal chest pain 3 weeks after focal ablation (1.5%)
- Control: None (p<0.001)

**STUDY RESULTS**

<table>
<thead>
<tr>
<th>Progression to HGD/EAC</th>
<th>Progression to EAC</th>
<th>Complete Response Rate</th>
<th>Intestinal Metaplasia Rate</th>
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</thead>
<tbody>
<tr>
<td>Proportion with Progression (%)*</td>
<td>Proportion with Complete Response*</td>
<td>Proportion with Intestinal Metaplasia Rate</td>
<td></td>
</tr>
<tr>
<td>26.5%</td>
<td>8.8%</td>
<td>27.9%</td>
<td>90.0%</td>
</tr>
</tbody>
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*P value<0.0440 was considered statistically significant

<table>
<thead>
<tr>
<th>Median follow-up (years)</th>
<th>Median age (years)</th>
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<tbody>
<tr>
<td>3.0</td>
<td>56.0</td>
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</table>

**WHY TREAT LGD WITH RFA?**
1. Radiofrequency ablation (RFA) has been shown to reduce neoplastic progression in patients with low-grade dysplasia (LGD).
- In a Level 1 randomized control study, RFA, compared to control (surveillance), resulted in an absolute risk reduction of 25% for progression to HGD/EAC over median patient follow-up of 3 years (NNT=4)!
2. Patients with confirmed LGD have a substantial progression risk.
- There are an estimated 220,000 patients diagnosed with LGD in the U.S.!

**REFERENCES:**
1. Radiofrequency ablation (RFA) has been shown to reduce neoplastic progression in patients with low-grade dysplasia (LGD).
2. Patients with confirmed LGD have a substantial progression risk.

**RECENT REVIEW ARTICLE PUBLISHED IN THE NEJM (AUG 2014)**


- Discussed imperfect nature of dysplasia as biomarker due to sampling error and pathologic discordance
- Mentioned progression rates in LGD ranging from 1.8% annually to 85% over 109 months
- Addressed reduction in neoplastic progression with RFA as shown in SURF: 26.5% in controls vs. 1.5% after RFA over 3 years
- Authors favor RFA as the management strategy for LGD