MHIF FEATURED STUDY: PROMINENT

CONDITION:
High triglycerides, low HDL, T2DM, secondary cardiovascular prevention

DESCRIPTION:
Placebo controlled trial of a potent fibrate, pemafibrate, to prevent MI, ischemic stroke, unstable angina requiring revascularization, and CV death in adults with T2DM.

CRITERIA LIST/QUALIFICATIONS:
Inclusion
- TG > 200, HDL < 40, T2DM, LDL<70 or high dose statin or statin intolerant

Exclusion
- Type 1 diabetes, HbA1c > 9.5%, NYHA Class IV HF, significant liver disease

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SPONSOR:
Kowa Research Institute

OPEN AND ENROLLING:
Please Refer Patients!

TRIGLYCERIDES MATTER – AND THIS STUDY IS HELPING ADDRESS THEM!
Surgical Management of Hypertrophic Cardiomyopathy

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Outline

- Case of HCM with septal hypertrophy
- Mitral valve disease in patients with HCM
- Papillary muscle abnormalities
• No financial disclosures

Case

• 50-y/o F

• Dyspnea on exertion

• Echo showed LVH
Medication Review

- Antihypertensive
- Beta blockers

Provocative Maneuvers

- Valsalva
- Amyl Nitrate
- Treadmill
Echo

EKG

- Atrial arrhythmias
- Right bundle branch block
Key Intra-operative Measurements

- Septal thickness
- Depth of SAM-septal contact below the nadir of the RCC
- Distribution of septal hypertrophy

Intraoperative TEE
Intraoperative TEE

Steffen RJ, Smedira NG. Operative Cardiac Surgery, 6th Edition
Myectomy Specimen

Post-operative TEE
Long-term Outcome


Long-term Outcome

Survival


Septal Myectomy

- Durable decrease in septal thickness and peak gradient
- Durable improvement in NYHA class
- Pacemaker rate less than 10%
- Survival similar to age and gender matched controls
Mitral Valve Disease

Degenerative

Myxomatous


AL Papillary Muscle inserting on AML

Restrictive Secondary Chordae


Long Anterior Mitral Leaflet


<table>
<thead>
<tr>
<th>Morphologic Categories</th>
<th>Criteria</th>
<th>Total No. (%)</th>
<th>Repair No. (%)</th>
<th>Replacement No. (%)</th>
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<tbody>
<tr>
<td>Degenerative</td>
<td>Leaflet prolapse</td>
<td>36 (31)</td>
<td>24 (67)</td>
<td>12 (33)</td>
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<tr>
<td></td>
<td>Chordae ruptured</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Chordae elongated</td>
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<tr>
<td>Myxomatous</td>
<td>Leaflet myxomatous</td>
<td>23 (20)</td>
<td>10 (43)</td>
<td>13 (57)</td>
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<tr>
<td>Papillary muscle abnormalities</td>
<td>Attached to lateral leaflet</td>
<td>23 (20)</td>
<td>10 (43)</td>
<td>13 (57)</td>
</tr>
<tr>
<td></td>
<td>Attached to ventricular wall</td>
<td></td>
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<tr>
<td></td>
<td>Hypertrophied papillary muscle</td>
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<tr>
<td>Restrictive chordal abnormalities</td>
<td>Chordae calcified</td>
<td>22 (19)</td>
<td>14 (64)</td>
<td>8 (36)</td>
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<td></td>
<td>Chordae shortened</td>
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<td>Chordae abnormalities of anterior leaflet</td>
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<tr>
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<td>Chordae abnormalities of posterior leaflet</td>
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</tr>
<tr>
<td>Restrictive leaflet abnormalities</td>
<td>Leaflet calcified</td>
<td>80 (70)</td>
<td>40 (50)</td>
<td>40 (50)</td>
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<tr>
<td></td>
<td>Leaflet thickened</td>
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</tr>
<tr>
<td></td>
<td>Leaflet tethered/restricted</td>
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</tr>
<tr>
<td>Long leaflet</td>
<td>AML &gt; 2.5 cm or PML &lt; 2.0 cm</td>
<td>64 (56)</td>
<td>47 (73)</td>
<td>17 (27)</td>
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<tr>
<td></td>
<td>Surgeon’s observation</td>
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</table>

Mitral Regurgitation after Septal Myectomy

Methods

2004 to 2014

1282 septal myectomies

585 were isolated myectomies
How common is mitral regurgitation after myectomy?

Preop Mitral Regurgitation

Steffen RJ, Smedira NG, Blackstone, EH, et al.
Post Op Mitral Regurgitation

Grade

% 0 1 2 3

Steffen RJ, Smedira NG, Blackstone, EH, et al.

Post Myectomy MV Regurgitation

% 0+ / 1+ 2+ 3+/4+

Years 0 1 2 3 4 5 6 7

Steffen RJ, Smedira NG, Blackstone, EH, et al.
Pre-operative Echo

Post-operative Echo
How common is new onset MR after myectomy?

Steffen RJ, Smedira NG, Blackstone, EH, et al.
Potential Risk Factors

Older Age

History of Hypertension

Lower Left Ventricular End Diastolic Volume

Mitral Valve Disease

- Morphologic anomalies unique to patients with HCM
- Repair rates lower than standard mitral valve disease
- Myectomy alone reduces most MR
- Small subset develop new-onset MR after myectomy
Papillary Muscle Anomalies

Bryant R, Smedira NG. JTCVS 2008;135:223-4
Papillary Muscles

- Bifid and apically displaced PM are common in HCM
- They can cause LVOT obstruction and MR without hypertrophy
- Papillary muscle reorientation often works

Conclusion

- Septal myectomy provides immediate, durable reduction in LVOT gradient and symptoms
- Mitral regurgitation is common, usually improves with myectomy alone
- Papillary muscle abnormalities can cause obstruction, MR independent of septal hypertrophy
Thank you


FIGURE 5. Freedom from reintervention in myectomy and ASA groups.
ACQUIRED: HYPERTROPHIC CARDIOMYOPATHY: EXPERT OPINION

Why we need more septal myectomy surgeons: An emerging recognition

Barry J. Maron, MD, a Joseph A. Dearani, MD, b Martin S. Maron, MD, a Steve R. Ommen, MD, b Hassan Rastegar, MD, a Rick A. Nishimura, MD, b Daniel G. Swistel, MD, c Mark V. Sherrid, MD, c Anthony Ralph-Edwards, MD, d Harry Rakowski, MD, d Nicholas G. Smedira, MD, e Ethan J. Rowin, MD, a Milind Y. Desai, MD, e Harry M. Lever, MD, e Paolo Spirito, MD, f Paolo Ferrazzi, MD, f and Hartzell V. Schaff, MD b