Chest Pain - Case

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Disclosures

- I have no financial disclosures unfortunately.
Our Patient

- 62 y.o. Caucasian male
- 2 months of exertional chest pressure
  - First noticed while mowing the yard
  - Improved after 5-10 minutes of rest
  - Associated with mild left elbow numbness
  - Now described as “bothersome and difficult” to complete his job in environmental engineering

- One episode of this prior to 2 months ago, improved with azithromycin
Our Patient

PMH
• Essential hypertension
• Dyslipidemia
• Esophageal reflux
• Nontoxic multinodular goiter
• Seasonal allergies

PSH
• Exploratory laparotomy for perforated diverticulum (2006)
• Hernia repair (2017)
• Exploratory laparotomy for lysis of adhesions (2018)
Our Patient

Family/Social Hx

- Unknown, he is adopted and does not have this information
- Tobacco: Never
- Alcohol: Quit 16 years ago, no history of heavy use

Medications

- Lisinopril-HCTZ 10-12.5 mg daily
- Pravastatin 10 mg daily
- Omeprazole 20 mg daily
Our Patient

ROS

• Pertinent (+):
  • Shortness of breath on exertion, left arm numbness on exertion, reflux symptoms

• Pertinent (-):
  • Fevers, chills, sputum production, dizziness, pre-syncope, palpitations, nosebleeds, dysphagia, hematemesis, vomiting, lower extremity swelling, extremity weakness, weight or appetite changes
Our Patient

Physical Exam

- Vitals:
  - T 98.5  BP 126/62  HR 95  RR 18  O2 sat 98% on RA
- Gen: awake, alert, non-toxic, well-dressed, no distress
- HEENT: no mucosal blood, mucosa moist, palpebrae are not pale
- Neck: Trachea midline, no JVD, normal carotid upstrokes, no bruits
- CV: Normal rate, regular rhythm, no significant murmurs, no rubs or gallops, symmetric pulses in upper and lower extremities, warm distally
- Resp: Clear bilaterally, no wheezing or rales, normal effort, equal excursion bilaterally
- Abd: Soft, non-distended, non-tender, bowel sounds normal
- Ext: No edema or clubbing, symmetric pulses, no rashes
- Neuro: No deficits noted, strength equal in all major muscle groups, sensation intact, gait normal while walking
<table>
<thead>
<tr>
<th>Cholesterol</th>
<th>LDL</th>
<th>HDL</th>
<th>Triglycerides</th>
</tr>
</thead>
<tbody>
<tr>
<td>114</td>
<td>58</td>
<td>42</td>
<td>68</td>
</tr>
<tr>
<td>136</td>
<td>105</td>
<td>12</td>
<td>120</td>
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<tr>
<td>3.6</td>
<td>24</td>
<td>0.84</td>
<td></td>
</tr>
</tbody>
</table>

Our Patient
Our Patient

Putting it together:

- 62 year old male with exertional chest discomfort improved with rest
- Associated with left arm symptoms, shortness of breath
- History of hypertension and dyslipidemia
  - Both well-controlled
- Unknown family history
- No prior tobacco use
- No high-risk findings on physical exam
- Normal CXR
- Normal lab work
- Normal baseline ECG
- Good functional capacity at baseline
Our Patient

• Next step?
  • Stress test
• Which type(s) could be considered?
  • Treadmill ECG, treadmill echocardiogram
• Referred for exercise stress echocardiogram
Our Patient

• Exercised for 3.3 minutes, stopped due to limiting chest pain
  • Achieved 89% predicted maximum HR
• ECG:
  • Normal baseline ECG.
  • With stress: 2.5 mm horizontal/down-sloping ST segment depression
    • Leads II, III, aVF, V3-V6
  • Findings persisted 13 minutes into recovery, along with symptoms
• Echo portion:
  • EF decreased, cavity size increased, severe hypokinesis of the mid inferolateral and septal segments with akinesia of the mid-distal anterior segments, the entire apex, and the mid anterolateral segment
• Duke Treadmill score: -17.5 (high risk)
Duke Treadmill Score = Exercise Duration (min) - 5 (ST Deviation (mm)) - 4 (Angina Index)

Angina Index
0 – none, 1 – typical angina, 2 – angina causing test cessation

<table>
<thead>
<tr>
<th>Score</th>
<th>Risk Group</th>
<th>Stenosis ≥ 75%</th>
<th>Multivessel Disease</th>
<th>1-Year Mortality</th>
</tr>
</thead>
<tbody>
<tr>
<td>≥ 5</td>
<td>Low</td>
<td>40.1%</td>
<td>23.7%</td>
<td>0.25%</td>
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<td>-10 to 4</td>
<td>Intermediate</td>
<td>67.3%</td>
<td>55.0%</td>
<td>1.25%</td>
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<tr>
<td>≤ -11</td>
<td>High</td>
<td>99.6%</td>
<td>93.7%</td>
<td>5.25%</td>
</tr>
</tbody>
</table>

Our Patient

- High risk stress test
- Next step?
- Taken for angiography
Our Patient

• Clinic follow-up
  • Symptoms completely resolved
  • No problems with dual-antiplatelet therapy of aspirin/Plavix
  • Back to work in full capacity shortly after stent placement
Thank You