GRACE-1: Recurrent, Low-Risk Chest Pain in the ED

RECURRENT CHEST PAIN: Defined as patients who have had a previous visit to an emergency department (ED) with chest pain that led to a diagnostic protocol for its evaluation that did not demonstrate evidence of acute coronary syndrome or flow-limiting coronary stenosis. This included two or more ED visits for chest pain in a 12-month period.

LOW RISK: Low risk was defined by HEART score <4 points (and other scores validated in the ED setting such as the HEART pathway or TIMI score) for disease-related poor outcomes within 30 days, all of which require an electrocardiogram (ECG) for risk stratification.

PICO QUESTIONS

1. (P) In adult patients with recurrent, low-risk chest pain, (I) is a single troponin vs (C) serial troponins needed for (O) ACS outcomes within 30 days?

2. (P) In adult patients with recurrent, low-risk chest pain, and normal or non-diagnostic stress testing within the last 12 months, (I) does repeat stress testing vs (C) no stress test have an effect on (O) MACE within 30 days?

3. (P) In adult patients with recurrent, low-risk chest pain, (I) admission to the hospital versus (C) stay in the ED observation unit versus (C) outpatient follow up recommended for (O) ACS outcomes within 30 days?

4. (P) In adult patients with recurrent, low-risk chest pain and a negative cardiac catheterization defined as less than 50% stenosis (E) what is their risk of subsequent ACS and time to ACS?

5. (P) In adult patients with recurrent, low-risk chest pain and a negative cardiac catheterization defined as no coronary disease (0% stenosis) (E) what is their risk of subsequent ACS and time to ACS?

6. (P) In adult patients with recurrent, low-risk chest pain and a negative coronary CT angiogram (E) what is their risk of subsequent ACS and time to ACS?

7. (P) In adult patients with recurrent, low-risk chest pain, (I) what is the yield of depression and anxiety screening tools in (O) healthcare use and return ED visits?

8. (P) In adult patients with recurrent, low-risk chest pain, (I) what is the role of referral for anxiety/depression in (O) healthcare use and return ED visits?

RECOMMENDATIONS

1. In adult patients with recurrent, low-risk chest pain, for greater than 3 hours duration we suggest a single, high-sensitivity troponin below a validated threshold to reasonably exclude ACS within 30 days. (Conditional, For) [Low level of evidence]

2. In adult patients with recurrent, low-risk chest pain, and a normal stress test within the previous 12 months, we do not recommend repeat routine stress testing as a means to decrease rates of MACE at 30 days. (Conditional, Against) [Low level of evidence]

3. In adult patients with recurrent, low-risk chest pain, there is insufficient evidence to recommend hospitalization (either standard inpatient admission or observation stay) versus discharge as a strategy to mitigate major adverse cardiac events within 30 days. (No evidence, Either)

4. In adult patients with recurrent, low-risk chest pain and non-obstructive (< 50% stenosis) CAD on prior angiography within 5 years, we suggest referral for expedited outpatient testing as warranted rather than admission for inpatient evaluation. (Conditional, For) [Low level of evidence]

5. In adult patients with recurrent, low-risk chest pain and no occlusive CAD (0% stenosis) on prior angiography within 5 years, we recommend referral for expedited outpatient testing as warranted rather than admission for inpatient evaluation. (Conditional, For) [Low level of evidence]

6. In adult patients with recurrent, low-risk chest pain and prior CCTA within the past two years with no coronary stenosis, we suggest no further diagnostic testing other than a single, high-sensitivity troponin below a validated threshold to exclude ACS within that two-year time frame. (Conditional, For) [Moderate level of evidence]

7. In adult patients with recurrent, low-risk chest pain, we suggest the use of depression and anxiety screening tools as these might have an effect on healthcare use and return ED visits. (Conditional, Either) [Very low level of evidence]

8. In adult patients with recurrent, low-risk chest pain, we suggest referral for anxiety or depression management, as this might have an impact on healthcare use and return ED visits. (Conditional, Either) [Low level of evidence]