TITLE: Comparative Value of Erythrocyte Sedimentation Rate (ESR) and C-Reactive Protein (CRP) Testing in Combination or Individually for Patient Monitoring: Clinical and Cost-Effectiveness

DATE: 08 April 2015

RESEARCH QUESTIONS

1. What is the comparative clinical effectiveness of paired erythrocyte sedimentation rate (ESR) and C-reactive protein (CRP) compared with ESR or CRP alone for monitoring adult patients?

2. What is the cost-effectiveness of paired ESR and CRP compared with ESR or CRP alone for monitoring adult patients?

3. What is the comparative clinical effectiveness of ESR compared with CRP for monitoring adult patients?

4. What is the cost-effectiveness of ESR compared with CRP for monitoring adult patients?

KEY FINDINGS

One systematic review and 30 non-randomized studies were identified regarding the comparative clinical effectiveness of ESR and CRP compared with ESR or CRP alone, or ESR compared with CRP for monitoring adult patients.

METHODS

A focused search (with main concepts appearing in title or major subject heading) was conducted on key resources including PubMed, The Cochrane Library (2015, issue 03), University of York Centre for Reviews and Dissemination (CRD) databases, Canadian and major international health technology agencies, as well as a focused Internet search. No filters were applied to the main focused search to limit the retrieval by study type. A second broader search (with main concepts appearing in the title, abstract or subject heading) was also included, however methodological filters were applied to limit retrieval to health technology...
assessments, systematic reviews, meta-analyses and economic studies. Where possible, retrieval was limited to the human population. The search was also limited to English language documents published between January 1, 1980 and March 16, 2015. Internet links were provided, where available.

**SELECTION CRITERIA**

One reviewer screened citations and selected studies based on the inclusion criteria presented in Table 1.

<table>
<thead>
<tr>
<th>Table 1: Selection Criteria</th>
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<tbody>
<tr>
<td><strong>Population</strong></td>
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<tr>
<td><strong>Intervention</strong></td>
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<tr>
<td>Q1-2: Erythrocyte sedimentation rate (ESR) and C-reactive protein (CRP) in combination (including circumstances where both tests are conducted with only one positive result required for a positive test)</td>
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<td>Q3-4: ESR alone</td>
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<td><strong>Comparator</strong></td>
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<td>Q1-2: ESR or CRP alone</td>
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<td>Q3-4: CRP alone</td>
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<tr>
<td><strong>Outcomes</strong></td>
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<tr>
<td>Q1/Q3: Clinical outcomes associated with patient monitoring or management</td>
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<td>Q2/Q4: Cost-effectiveness outcomes</td>
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<tr>
<td><strong>Study Designs</strong></td>
</tr>
<tr>
<td>Health technology assessment reports, systematic reviews, meta-analyses, randomized controlled trials, non-randomized studies, economic evaluations</td>
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</tbody>
</table>

**RESULTS**

Rapid Response reports are organized so that the higher quality evidence is presented first. Therefore, health technology assessment reports, systematic reviews, and meta-analyses are presented first. These are followed by randomized controlled trials, non-randomized studies, and economic evaluations.

One systematic review and 30 non-randomized studies were identified regarding the comparative clinical effectiveness of ESR and CRP compared with ESR or CRP alone, or ESR compared with CRP for monitoring adult patients. No relevant health technology assessment reports, meta-analyses, or randomized controlled trials were identified. In addition, no economic evaluations regarding the cost effectiveness of these tests were identified.

Additional references of potential interest are provided in the appendix.

**Health Technology Assessments**

No literature identified.

**Systematic Reviews and Meta-analyses**

**Randomized Controlled Trials**
No literature identified.

**Non-Randomized Studies**

**Combined ESR and CRP versus ESR or CRP**


**ESR versus CRP**


**Economic Evaluations**
No literature identified.

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APPENDIX – FURTHER INFORMATION:

Non-Randomized Studies – Purpose of Testing Unclear


Economic Evaluations – Purpose of Testing Unclear


Clinical Practice Guidelines


Review Articles


