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Rating the Quality of Evidence for the Appropriateness of Coronary Revascularization

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1. Background

- The RAND Appropriateness Method is used to obtain expert ratings of the appropriateness of use of medical procedures for a highly specific set of clinical scenarios or "indications."
- Members of an expert panel are given a review of the scientific evidence and are asked to rate the appropriateness of each indication on a scale of 1 (highly inappropriate) to 9 (highly appropriate).
- But to date, it has not been determined how panelists make use of that evidence in their ratings.

2. Objective

To examine panelist judgements of the quality of the scientific evidence supporting their ratings of the appropriateness of percutaneous transluminal coronary angioplasty (PTCA) and coronary artery bypass graft surgery (CABG).

3. Methods (I)

- As part of the European Union BIOMED Concerted Action on the appropriateness of medical and surgical procedures, we carried out a multinational panel to rate the appropriateness of coronary revascularization procedures (PTCA and CABG).
- The panel was composed of 13 physicians from the 5 European countries that had previously held national panels to rate coronary revascularization: Switzerland (CH), Spain (ES), The Netherlands (NL), Sweden (SE), and the United Kingdom (UK).
- Three clinical specialties were represented: invasive cardiologists (IC: 6 panelists), noninvasive cardiologists (NIC: 2 panelists) and coronary surgeons (CS: 5 panelists).

4. Methods (II)

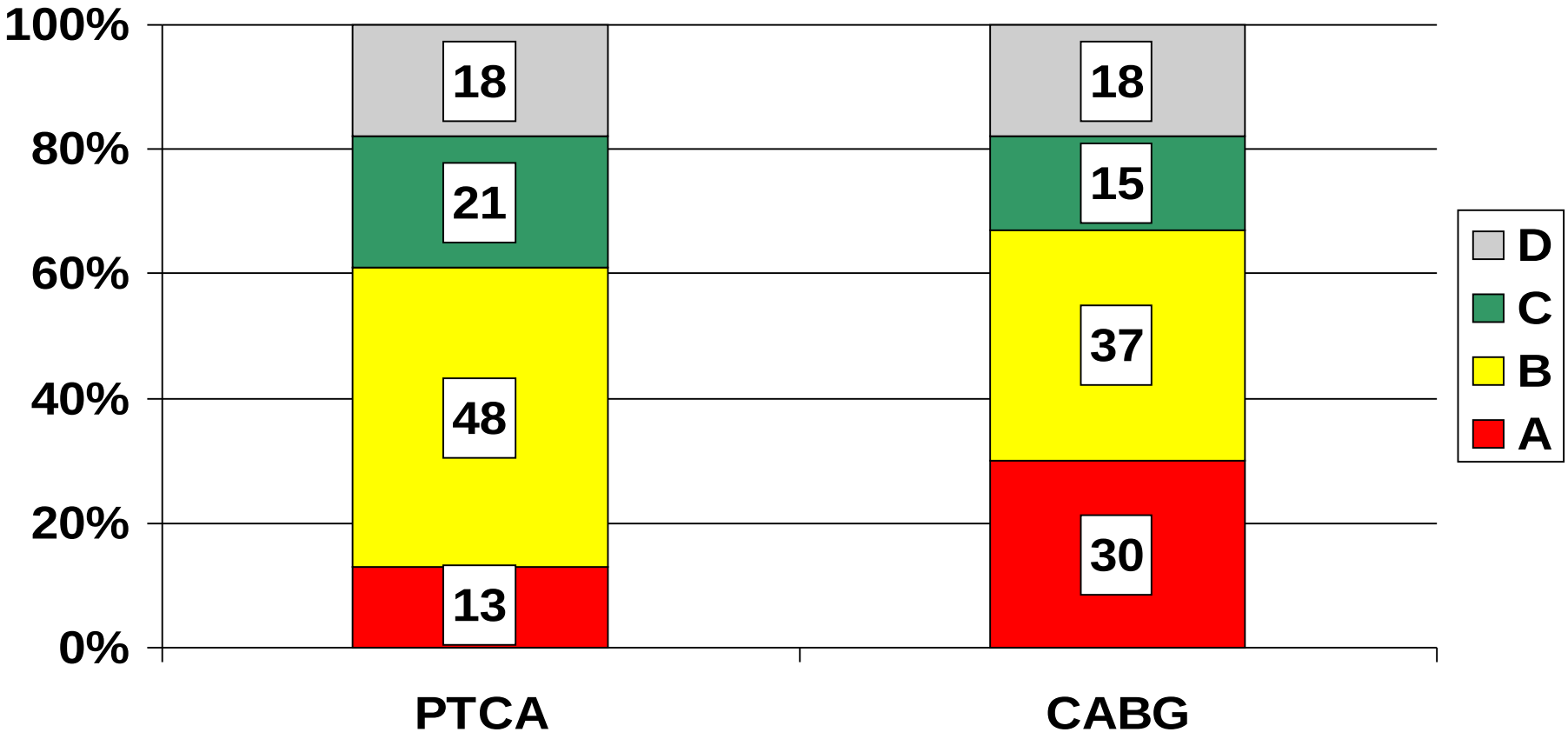
- The panel carried out two rounds of ratings, first, independently, and second, at a 2-day meeting in Madrid in December 1998.
- In addition to rating the appropriateness of performing CABG and PTCA in patients with coronary artery disease, they also rated the quality of the evidence on which their rating was based, according to the following scale:

  A: Convincing scientific evidence
  B: Weaker scientific evidence
  C: Expert opinion
  D: Your own experience/opinion or that of your peers

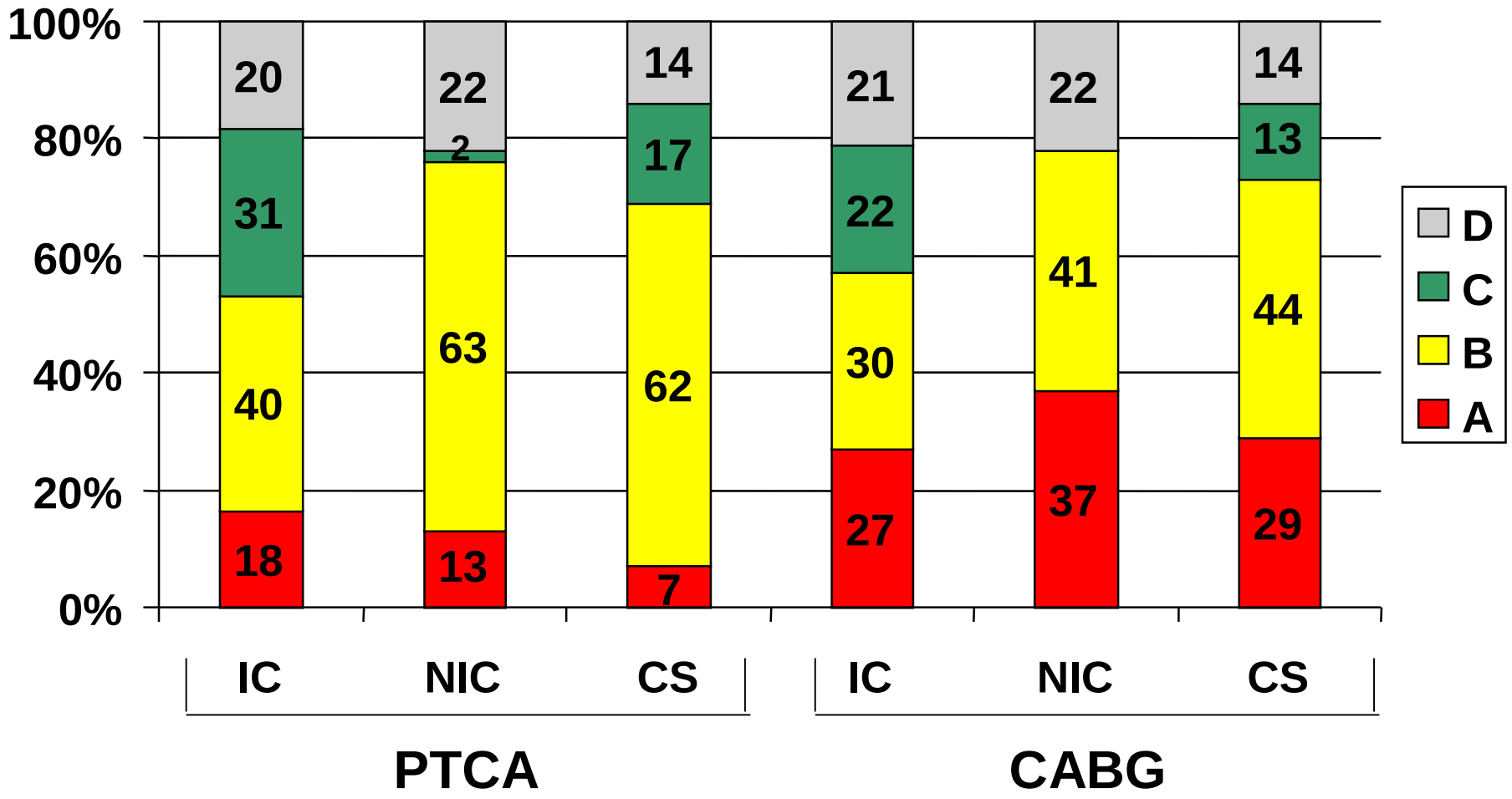
5. Results

- About one-third of the appropriateness ratings for CABG were judged to be based on the highest quality scientific evidence (A: well-designed randomized controlled trials), whereas only about 13% of the PTCA ratings were so classified.
- As a group, the invasive cardiologists considered that a smaller proportion of their appropriateness ratings were based on some kind of scientific evidence -- either convincing (A) or weaker (B) -- than either the non-invasive cardiologists or the surgeons.
- The Spanish and Swiss panelists thought a larger proportion of their ratings had a basis in scientific evidence than did the British, the Swedish and the Dutch panelists.
- These differences by clinical specialty and by country held true for both PTCA and CABG ratings.

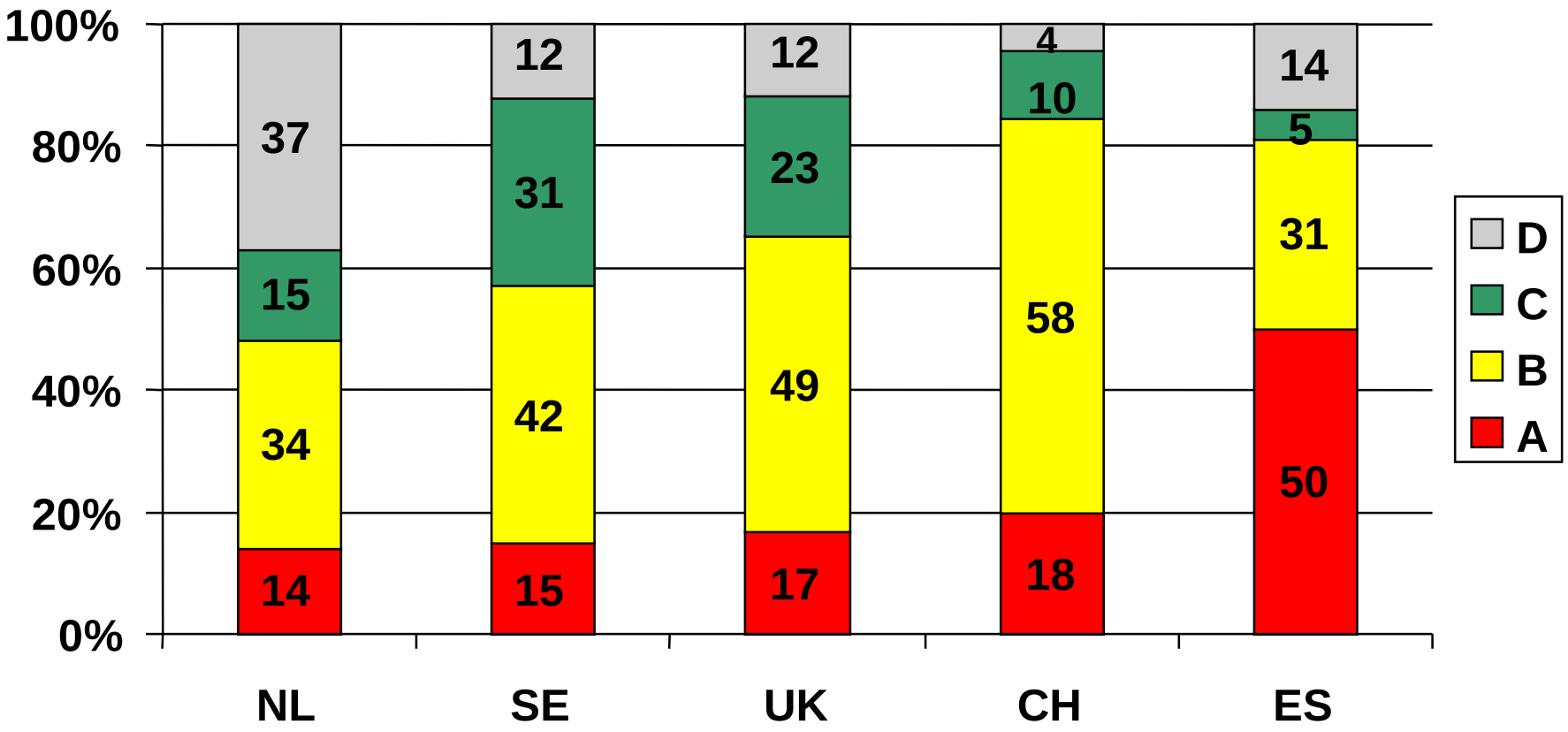
6. Evidence Ratings, by Procedure (%)



7. Evidence Ratings, by Procedure and Specialty (%)



8. Evidence Ratings for PTCA and CABG, by Country (%)



9. Conclusions:

- In general, CABG ratings were considered to be based on higher quality evidence than those for PTCA, both by specialty and by country.
- For coronary revascularization procedures, which are among the most extensively studied in large-scale randomized controlled trials, panelists believed that almost 2/3 of their appropriateness ratings were based upon some kind of scientific evidence (categories A or B).
- Within this overall moderate level of use of scientific evidence, there were important differences by procedure, physician specialty, and nationality.
- Further research is needed to ascertain the effect of these differences on appropriateness ratings.