

**Supplementary Table 1** Search strategy

| # | Searches using PubMed, Embase and Cochrane Controlled Register of Trials (CENTRAL) databases   |
|---|--|
| 1 | "IMR" OR "Index of microcirculatory resistance" OR "Index of microvascular resistance" OR "Microvascular resistance index" OR "HMR" OR "Hyperemic microvascular resistance" OR "Pzf" OR "Zero-flow pressure" |
| 2 | "STEMI" OR "ST-elevation myocardial infarction" OR "Acute coronary syndrome" OR "Myocardial infarction"  |
| 3 | #1 AND #2  |

**Supplementary Table 2** Newcastle-Ottawa Scale summary

| First author/ study                      | Selection | Comparability | Outcome |
|--|-----------|---------------|---------|
| Williams et al. (1)                      | **        | -             | **      |
| Patel et al. / OXAMI study (2)           | **        | -             | **      |
| Scarsini et al. (4)                      | ***       | -             | ***     |
| De Maria et al. (10)                     | **        | -             | ***     |
| McAlindon et al. / MICRO-AMI study (11)  | **        | -             | ***     |
| Teunissen et al. (12)                    | ***       | *             | ***     |
| Yoo et al. (13)                          | **        | -             | ***     |
| Ahn et al. (14)                          | **        | -             | ***     |
| Fukunaga et al. (15)                     | **        | -             | ***     |
| Kitabata et al. (16)                     | **        | -             | **      |
| Maznyczka et al. (17)                    | **        | -             | ***     |
| Fearon et al. (18)                       | **        | -             | ***     |
| Carrick et al. (19)                      | **        | -             | ***     |
| De Waard et al. (20)                     | ***       | *             | ***     |
| Jin et al. (21)                          | **        | -             | ***     |
| Ntalianis et al. (22)                    | **        | -             | **      |
| Choi et al. (23)                         | ***       | *             | ***     |
| Mejía-Rentería et al. (24)               | ***       | *             | ***     |
| Díez-Delhoyo et al./ FISIOIAM study (25) | **        | -             | ***     |
| Van der Hoeven et al. (28)               | **        | -             | ***     |
| Bax et al. (29)                          | **        | -             | ***     |
| Scarsini et al. / OXAMI study (45)       | **        | -             | ***     |
| Scarsini et al. (46)                     | **        | -             | **      |
| Maznyczka et al. (47)                    | **        | -             | ***     |
| Fahrni et al. /Insights OxAMI study (48) | **        | -             | ***     |
| De Maria et al. (49)                     | **        | -             | ***     |