**Table S1 Risk of bias for RCT studies using Cochrane Collaboration’s Tool**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Study** | **Selection Bias** | **Performance Bias** | **Detection Bias** | **Attrition Bias** | **Reporting Bias** | **Other** |
| Random sequence generation | Allocation concealment | Blinding of participants and personnel | Blinding of outcome assessment | Incomplete outcome data addressed | Selective reporting | Other bias |
| Russo 2018 | Unclear | Unclear | Low | Low | Low | Low | Unclear |
| Morescalch 2019 | Unclear | Unclear | Low | Low | Low | Low | Unclear |

 **Table S2 Risk of bias cohort studies using Newcastle-Ottawa Quality Assessment Scale**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Study** | **Selection** | **Comparability** | **Outcome** | **Total** |
| Representativeness of the exposed cohort | Selection of the non exposed cohort | Ascertainment of exposure | Demonstration that outcome of interest was not present at start of study | Comparability of cases and controls  | Assessment of outcome | follow-up long enough for outcomes | Adequacy of follow up  |
| Murphy 2019 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 7 |

**Table S3 Risk of bias case control studies using Newcastle-Ottawa Quality Assessment Scale**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Study** | **Selection** | **Comparability** | **Exposure** | **Total** |
| Adequate case definition  | Representativeness of the cases | Selection of Controls | Definition of Controls | Comparability of cases and controls  | Ascertainment of exposure | Same method of ascertainment for cases and controls | Non-Response rate |
| Ho(3) 2019 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 7 |
| Tian 2018 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 9 |
| Wang(1) 2018 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 7 |
| Wang(2) 2019 | 1 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 5 |
| Itoh 2019 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 6 |
| Elwan 2019 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 8 |
| Ho(2) 2014 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 8 |
| Wang(3) 2019 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 8 |
| Shimada 2012 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 7 |
| Ho(1) 2014 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 7 |
| Iwasaki 2020 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 7 |