Supplementary Material

**Periodontitis and breast cancer: A bidirectional two-sample Mendelian randomization study**

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# Supplementary Tables

Table S1. SNPs used as instruments and their association with the exposure and the outcome

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| SNP | EA | OA | R2 | F | exposure | outcome |
| beta | se | pval | beta | se | pval |
|  |  |  |  |  | Periodontitis | Breast cancer |
| rs151226594 | T | G | 0.00050  | 22.847  | -0.3671 | 0.0768 | 1.75E-06 | -0.1196 | 0.0817 | 0.143 |
| rs138868497 | T | C | 0.00050  | 22.847  | 1.6387 | 0.3324 | 8.20E-07 | -0.0717 | 0.1421 | 0.6139 |
| rs10143801 | A | G | 0.00053  | 24.303  | -0.084 | 0.0171 | 8.66E-07 | -0.0257 | 0.0196 | 0.1902 |
| rs76734229 | A | G | 0.00053  | 24.129  | -0.1761 | 0.037 | 1.94E-06 | -0.0069 | 0.0352 | 0.8434 |
| rs9954920 | T | C | 0.00050  | 22.651  | 0.0769 | 0.0163 | 2.37E-06 | -0.0023 | 0.018 | 0.8964 |
| rs73155039 | A | G | 0.00049  | 22.257  | 0.8316 | 0.1757 | 2.22E-06 | -0.0868 | 0.0969 | 0.3708 |
|  |  |  |  |  | Breast cancer | Periodontitis |
| rs6721996 | A | G | 0.00025  | 62.803  | 0.499 | -0.1371 | 0.0173 | 0.1555 | 0.0751 | 39474.5 |
| rs487930 | A | C | 0.00020  | 49.160  | 0.5267 | 0.1227 | 0.0175 | 0.0155 | 0.8669 | 37505.8 |
| rs1910020 | C | T | 0.00023  | 57.304  | 0.7179 | -0.1461 | 0.0193 | 0.0168 | 0.2401 | 24111.5 |
| rs9371545 | A | G | 0.00027  | 67.007  | 0.0712 | 0.2775 | 0.0339 | 0.0312 | 0.8545 | 6023.37 |
| rs9693995 | T | C | 0.00020  | 49.959  | 0.5572 | -0.1244 | 0.0176 | 0.0156 | 0.6518 | 35555.3 |
| rs1078806 | G | A | 0.00068  | 168.415  | 0.4077 | 0.231 | 0.0178 | 0.0157 | 0.7996 | 33143.5 |
| rs78540526 | T | C | 0.00034  | 83.962  | 0.0727 | 0.3033 | 0.0331 | 0.0325 | 0.0104 | 5604.35 |
| rs2619415 | T | G | 0.00023  | 57.467  | 0.1112 | -0.2206 | 0.0291 | 0.0256 | 0.4216 | 9422.58 |
| rs3095602 | A | G | 0.00054  | 134.065  | 0.2753 | 0.2281 | 0.0197 | 0.0171 | 0.380 | 23438.6 |
| rs132289 | G | A | 0.00021  | 50.754  | 0.9819 | -0.5564 | 0.0781 | 0.0599 | 0.8616 | 1945.98 |

Table S2. Mendelian randomization estimates for the relationship between genetically instrumented periodontitis and breast cancer in the validation set

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Outcome | Exposure | Method | Beta | SE | P value | OR (95% CI) | Cochran's Q | Horizontal pleiotropy |
| Q | Q\_df | Q\_pval | Egger intercept | SE | P value |
| Periodontitis | Breast cancer | MR Egger | -0.001  | 0.003  | 0.796  | 0.999(0.994-1.005) | 13.423  | 28  | 0.991  | -0.018  | 0.015  | 0.305  |
| IVW | 0.000  | 0.000  | 0.001  | 0.947(1.000-1.003) | 13.532  | 29 | 0.994  |  |  |  |
| Weighted median | -0.001  | 0.002  | 0.770  | 0.999(0.996-1.003) |  |  |  |  |  |  |
| Simple mode | -0.001  | 0.003  | 0.774  | 0.999(0.993-1.005) |  |  |  |  |  |  |
| Weighted mode | -0.001  | 0.003  | 0.781  | 0.999(0.993-1.005) |  |  |  |  |  |  |
| Breast cancer | Periodontitis | MR Egger | 1.753  | 1.480  | 0.247  | 5.769(0.317-104.875) | 18.081  | 26  | 0.873  | -0.013  | 0.011  | 0.270  |
| IVW | 0.264  | 0.667  | 0.693  | 1.302(0.352-4.815) | 19.352  | 27  | 0.857  |  |  |  |
| Weighted median | 1.211  | 0.971  | 0.204  | 3.358(0.519-21.718) |  |  |  |  |  |  |
| Simple mode | 0.594  | 1.674  | 0.712  | 1.812(0.079-41.325) |  |  |  |  |  |  |
| Weighted mode | 1.179  | 1.087  | 0.258  | 3.252(0.440-24.008) |  |  |  |  |  |  |

MR, Mendelian randomization; IVW, inverse variance weighted; df, degree of freedom; MR, Mendelian randomization; Q, heterogeneity statistic Q.