

**Table S1: 【Patient level】 Fisher's exact test (Treatment outcome × Stage) P=0.020**

| Stage |                   | PI (L)      | PI    | MBL $\geq$ 3mm | MBL<3mm      | LoO   | Total |
|-------|-------------------|-------------|-------|----------------|--------------|-------|-------|
| I     | Count             | 0.00        | 0.00  | 1.00           | 11.00        | 2.00  | 14.00 |
|       | Expected Count    | 0.67        | 1.17  | 1.17           | 10.17        | 0.83  | 14.00 |
|       | Adjusted Residual | -0.92       | -1.24 | -0.18          | 0.55         | 1.44  |       |
| II    | Count             | 0.00        | 1.00  | 1.00           | 13.00        | 0.00  | 15.00 |
|       | Expected Count    | 0.71        | 1.25  | 1.25           | 10.89        | 0.89  | 15.00 |
|       | Adjusted Residual | -0.96       | -0.26 | -0.26          | 1.35         | -1.08 |       |
| III   | Count             | 0.00        | 3.00  | 1.00           | 27.00        | 3.00  | 34.00 |
|       | Expected Count    | 1.62        | 2.83  | 2.83           | 24.69        | 2.02  | 34.00 |
|       | Adjusted Residual | -1.69       | 0.13  | -1.47          | 1.15         | 0.92  |       |
| IV    | Count             | 4.00        | 3.00  | 4.00           | 10.00        | 0.00  | 21.00 |
|       | Expected Count    | 1.00        | 1.75  | 1.75           | 15.25        | 1.25  | 21.00 |
|       | Adjusted Residual | <u>3.55</u> | 1.14  | <u>2.05</u>    | <u>-2.97</u> | -1.33 |       |
| Total | Count             | 4.00        | 7.00  | 7.00           | 61.00        | 5.00  | 84.00 |
|       | Expected Count    | 4.00        | 7.00  | 7.00           | 61.00        | 5.00  | 84.00 |

**Table S2: 【Patient level】 Fisher's exact test (Treatment outcome × Grade) P=0.307**

| Grade |                   | PI (L) | PI    | MBL $\geq$ 3mm | MBL<3mm | LoO   | Total |
|-------|-------------------|--------|-------|----------------|---------|-------|-------|
| A     | Count             | 0.00   | 0.00  | 0.00           | 14.00   | 2.00  | 16.00 |
|       | Expected Count    | 0.76   | 1.33  | 1.33           | 11.62   | 0.95  | 16.00 |
|       | Adjusted Residual | -0.99  | -1.34 | -1.34          | 1.48    | 1.23  |       |
| B     | Count             | 0.00   | 3.00  | 2.00           | 17.00   | 0.00  | 22.00 |
|       | Expected Count    | 1.05   | 1.83  | 1.83           | 15.98   | 1.31  | 22.00 |
|       | Adjusted Residual | -1.22  | 1.05  | 0.15           | 0.57    | -1.37 |       |
| C     | Count             | 4.00   | 4.00  | 5.00           | 30.00   | 3.00  | 46.00 |
|       | Expected Count    | 2.19   | 3.83  | 3.83           | 33.40   | 2.74  | 46.00 |
|       | Adjusted Residual | 1.86   | 0.13  | 0.93           | -1.67   | 0.24  |       |
| Total | Count             | 4.00   | 7.00  | 7.00           | 61.00   | 5.00  | 84.00 |
|       | Expected Count    | 4.00   | 7.00  | 7.00           | 61.00   | 5.00  | 84.00 |

Table S3: 【Implant level】Fisher's exact test (Treatment outcome × Stage) P=0.021

| Stage |                   | PI (L)      | PI          | MBL $\geq$ 3mm | MBL<3mm      | LoO   | Total  |
|-------|-------------------|-------------|-------------|----------------|--------------|-------|--------|
| I     | Count             | 0.00        | 0.00        | 2.00           | 39.00        | 2.00  | 43.00  |
|       | Expected Count    | 0.66        | 1.85        | 2.12           | 37.44        | 0.93  | 43.00  |
|       | Adjusted Residual | -0.88       | -1.49       | -0.09          | 0.76         | 1.21  |        |
| II    | Count             | 0.00        | 2.00        | 2.00           | 48.00        | 0.00  | 52.00  |
|       | Expected Count    | 0.80        | 2.24        | 2.56           | 45.28        | 1.12  | 52.00  |
|       | Adjusted Residual | -0.98       | -0.18       | -0.39          | 1.23         | -1.17 |        |
| III   | Count             | 0.00        | 3.00        | 2.00           | 101.00       | 4.00  | 110.00 |
|       | Expected Count    | 1.69        | 4.74        | 5.42           | 95.78        | 2.37  | 110.00 |
|       | Adjusted Residual | -1.61       | -1.00       | -1.85          | 1.82         | 1.32  |        |
| IV    | Count             | 5.00        | 9.00        | 10.00          | 95.00        | 1.00  | 120.00 |
|       | Expected Count    | 1.85        | 5.17        | 5.91           | 104.49       | 2.58  | 120.00 |
|       | Adjusted Residual | <u>2.95</u> | <u>2.17</u> | <u>2.17</u>    | <u>-3.25</u> | -1.25 |        |
| Total | Count             | 5.00        | 14.00       | 16.00          | 283.00       | 7.00  | 325.00 |
|       | Expected Count    | 5.00        | 14.00       | 16.00          | 283.00       | 7.00  | 325.00 |

Table S4: 【Implant level】Fisher's exact test (Treatment outcome × Grade) P=0.359

| Grade |                   | PI (L) | PI    | MBL $\geq$ 3mm | MBL<3mm | LoO   | Total  |
|-------|-------------------|--------|-------|----------------|---------|-------|--------|
| A     | Count             | 0.00   | 0.00  | 1.00           | 37.00   | 2.00  | 40.00  |
|       | Expected Count    | 0.62   | 1.72  | 1.97           | 34.83   | 0.86  | 40.00  |
|       | Adjusted Residual | -0.84  | -1.43 | -0.76          | 1.09    | 1.32  |        |
| B     | Count             | 0.00   | 5.00  | 3.00           | 70.00   | 0.00  | 78.00  |
|       | Expected Count    | 1.20   | 3.36  | 3.84           | 67.92   | 1.68  | 78.00  |
|       | Adjusted Residual | -1.27  | 1.05  | -0.50          | 0.81    | -1.50 |        |
| C     | Count             | 5.00   | 9.00  | 12.00          | 176.00  | 5.00  | 207.00 |
|       | Expected Count    | 3.18   | 8.92  | 10.19          | 180.25  | 4.46  | 207.00 |
|       | Adjusted Residual | 1.70   | 0.05  | 0.96           | -1.46   | 0.43  |        |
| Total | Count             | 5.00   | 14.00 | 16.00          | 283.00  | 7.00  | 325.00 |
|       | Expected Count    | 5.00   | 14.00 | 16.00          | 283.00  | 7.00  | 325.00 |