### Supplementary Table

**Title:** Switching from zoledronic acid to denosumab increases the risk for developing medication-related osteonecrosis of the jaw in patients with bone metastases

**Authors:** Ikesue H, Doi K, Morimoto M, Hirabatake M, Muroi N, Yamamoto S, Takenobu T, and Hashida T.

### Supplementary Table S1. Univariate and multivariate analyses of risk factors for medication-related osteonecrosis of the jaw in patients who received denosumab or zoledronic acid for bone metastases

| Variables                                      | Univariate analysis | Multivariate analysis |
|------------------------------------------------|---------------------|-----------------------|
|                                                | HR (95% CI)         | P-value               | HR (95% CI)         | P-value               |
| Bone-modifying agents                          |                     |                       |                      |                       |
| ZA (control)                                   | 1.00                | –                     | 1.00                | –                     |
| Denosumab                                      | 2.32 (1.34–4.17)    | 0.002                 | 2.41 (1.37–4.39)    | 0.002                 |
| ZA followed by denosumab                      | 3.63 (1.41–8.36)    | 0.010                 | 4.36 (1.63–10.54)   | 0.005                 |
| Tooth extraction after starting BMAs           | 4.38 (2.55–7.30)    | <0.001                | 4.86 (2.75–8.36)    | <0.001                |
| Concomitant use of antiangiogenic agents a     | 2.24 (1.35–3.67)    | 0.002                 | 1.78 (1.06–2.96)    | 0.030                 |
| Tooth extraction before starting BMAs          | 1.94 (1.16–3.19)    | 0.012                 | 1.36 (0.79–2.28)    | 0.261                 |
| Concomitant use of corticosteroids             | 0.99 (0.53–1.75)    | 0.983                 | N/A                 |                       |
| Age (years)                                    | 1.01 (0.99–1.03)    | 0.503                 | N/A                 |                       |
| Male sex                                       | 0.98 (0.60–1.61)    | 0.949                 | N/A                 |                       |
| Diabetes                                       | 0.49 (0.12–1.40)    | 0.201                 | N/A                 |                       |

BMA, bone modifying agent; CI, confidence interval; HR, hazard ratio; ZA, zoledronic acid.

N/A indicates that the covariate was not included in the model because it was not significant in univariate analyses.

a Includes axitinib, bevacizumab, everolimus, lenvatinib, pazopanib, ramucirumab, regorafenib, sorafenib, sunitinib, and temsirolimus.