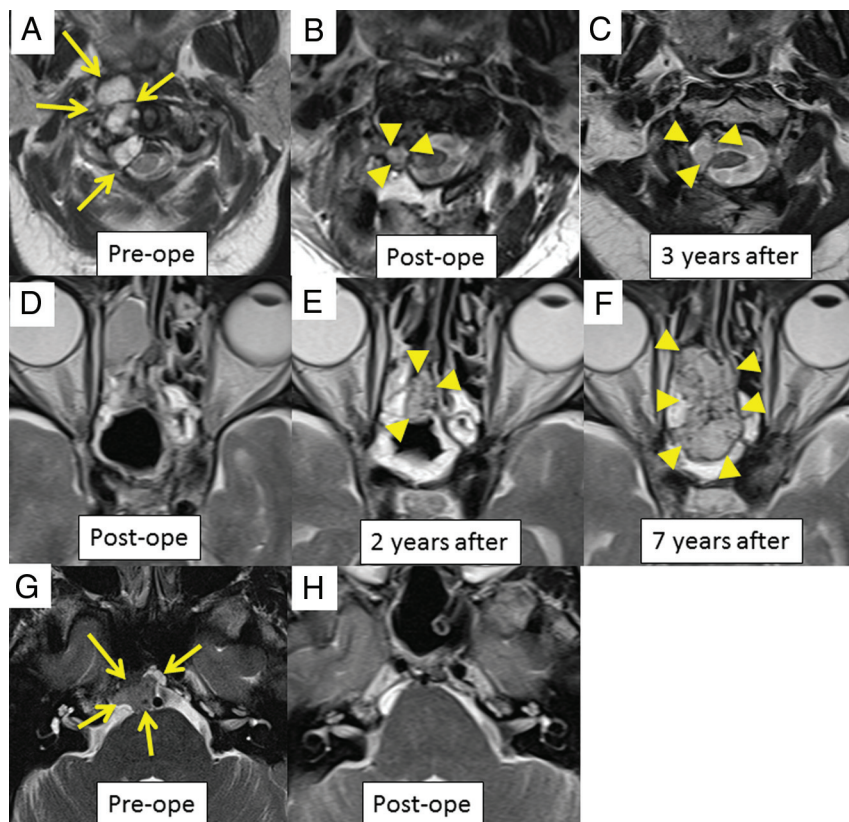


## ON-LINE APPENDIX

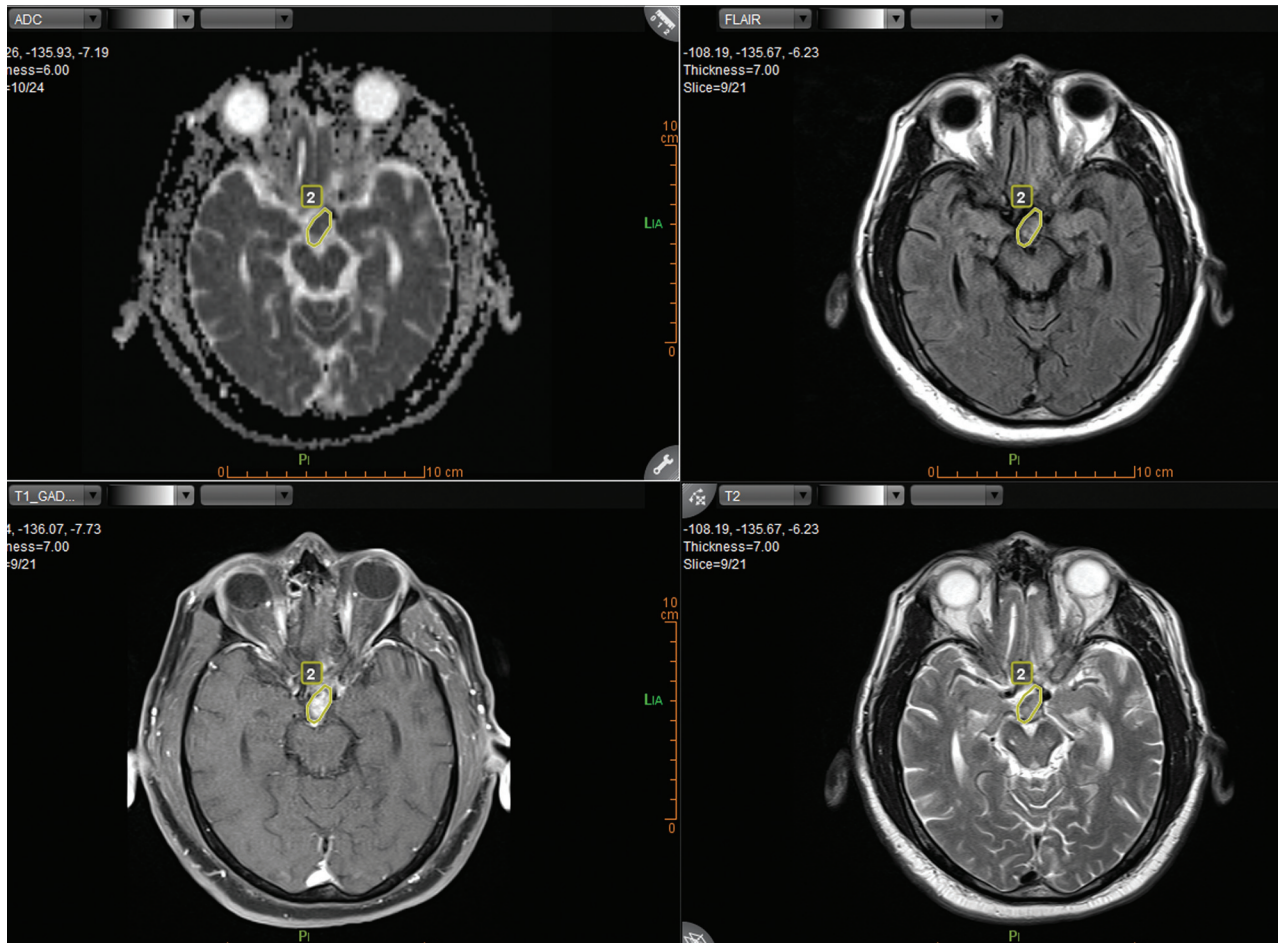
Supplemental data: Correlation between apparent diffusion coefficient and adjuvant radiation therapy.

Methods: We calculated Pearson correlation coefficients between the mean ADC at the first MR imaging scan and radiation dose and the interval from the RT to the first MR imaging in 11 patients.

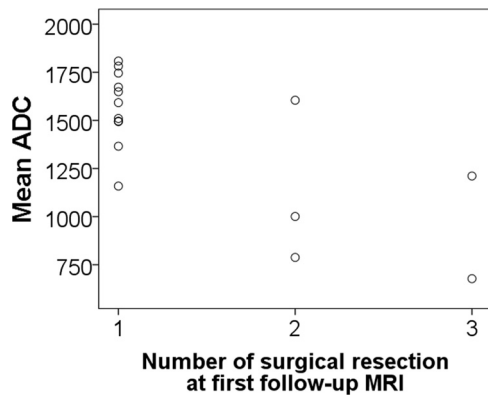
Result: There were no significant correlations between the ADC and radiation dose ( $r = -0.119, P = .724$ ) or between the ADC and the interval between RT and the first MR imaging scan ( $r = -.433, P = .160$ ).



**ON-LINE FIG 1.** Examples of residual and recurrent chordomas and no recurrence. A–C, Residual chordoma. A, An expansile mass was observed on the right side of the C2 spine preoperatively (*arrows*). B, A small expansile mass was observed adjacent to the resection site (*arrowheads*). C, The mass had increased in size 3 years after the resection (*arrowheads*). D–F, Recurrent chordoma. There was no residual tumor in the operation bed (D), but 2 years later, an expansile nodule appeared at the site (E, *arrowheads*), which increased in size 5 years after the recurrence (F, *arrowheads*). G–H, No recurrence or residual tumor. G, An expansile tumor arose in the clivus (*arrows*), and a subsequent image (H) showed neither residual tumor nor recurrence. Ope indicates operation.



**ON-LINE FIG 2.** Example of tumor measurements. Snapshot showing ADC measurements of a tumor by Olea Sphere. When drawing an ROI surrounding a tumor in one sequence, the software tool automatically copies the ROI to other images.



**ON-LINE FIG 3.** Correlation between ADC and the number of surgical resections at first MR imaging scan. Methods: We calculated the Pearson correlation coefficients between the mean ADC and the number of surgical resections at the first MR imaging. Result: There was a significant correlation between the ADC and the number of surgical resections ( $r = -.718, P = .002$ ). The ADC and the number of surgical resections could be confounder factors of each other for survival. Moreover, the number of surgical resections was equivalent to the number of recurrences, which supported the hypothesis of this study that recurrent and residual chordoma might acquire aggressive features with time with a decreased ADC value. Some poorly differentiated chordomas arise in a pre-existing low-grade lesion with or without previous treatment.<sup>1,5,23-28</sup>