



## Odontogenic Keratocyst Invading Sphenoid Sinus

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### Clinical Image

A 15-year-old patient was referred to our clinic with a swelling and intermittent pain of the right cheek and a severely displaced right upper wisdom tooth as an incidental finding on a routine dental panoramic radiograph showed. Clinical examination revealed a distended right maxillary sinus and pain on palpation in the region.

Further imaging consisting of an MRI and a CT scan (Figure 1) showed a large cystic lesion occupying the complete right maxillary sinus, extending well into the right sphenoid sinus. The accompanying right upper wisdom tooth was also discernible in the right sphenoid sinus.

In preparation for the operation, we fused the MRI and CT scan (Figure 2 and 3) and planned the brainlab-navigated removal of the lesion and the associated wisdom tooth. The removal was



**Figure 1:** Coronary CT scan with a soft tissue mass filling the whole right maxillary sinus (circle) and communicating third upper molar displaced into the right sphenoidal sinus (bolt).

### OPEN ACCESS

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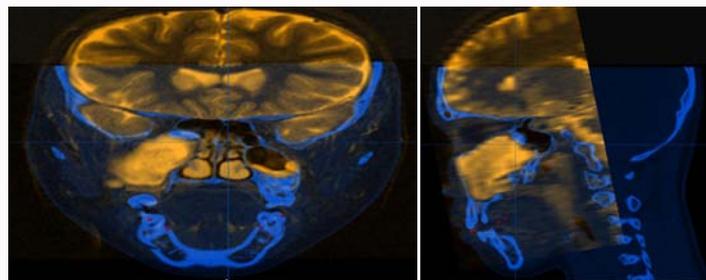
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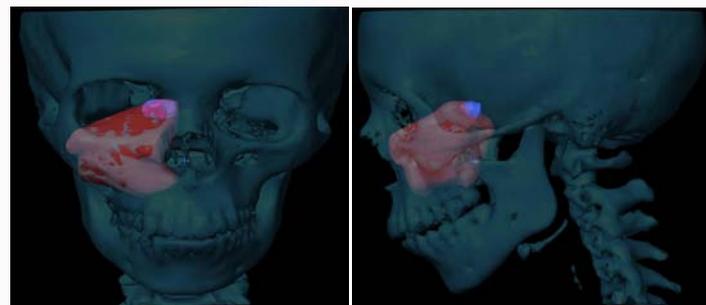
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**Figure 2:** Matched CT and MRI scan marking the whole mass within the right maxillary sinus (a coronary, b sagittal slide).



**Figure 3:** Fused CT and MRI data with the 3-dimensional reconstruction of the cystic lesion (red) and the mounting third upper molar (blue) within the right maxillary and sphenoidal sinus (a coronary, b sagittal slide).

performed transorally and transnasally as enucleation with peripheral ostectomy. The histopathological examination of the specimen revealed the unexpected diagnosis of an odontogenic keratocyst in

this unusual location. Up to know (1½ years) the patient remains without recurrence shown by actual CT scans.