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# Morphometric analysis of Huguier's canal by Cone Beam CT

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The middle ear and the stomatognatic system are closely anatomically and functionally related. The anterior chordal canal of Huguier connects the temporomandibular joint (TMJ) and the middle ear. This canal is formed by the inferior process of tegment tympani and the sphenoid bone and it is located at the medial end of the petrotympanic fissure. To data, few studies aimed to describe Huguier's canal morphology and its related structures (Toth et al., 2006; Sato et al., 2008; Aristeguieta et al., 2009). The aim of this study is to describe the radiological anatomy of the Huguier's canal using cone beam CT (CBCT, Scanora 3D, Soredex). We measured 438 Huguier's canals from 219 human skulls (Section of Anthropology and Ethnology, Museum of Natural History, Florence, Italy). The measurements were made at three levels: 1) near the TMJ (lateral-glenoidal side) that was 1.961 ± 0.472 mm; 2) the narrowest point of the middle area that was 0.494 ± 0.24 mm; 3) near the middle ear (medial, acoustic meatus side) that was 1.085 ± 0.354 mm. 21 on 439 Huguier's canal (4.79%) were ossificated: 1 only in the medial side, 11 only in the middle area and 9 in all the three levels. Considering the high number of measurements, the values obtained were comparable, suggesting that CBCT can be useful to detect these anatomical details.

### References

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Key words
Huguier's canal, middle ear, morphometric analysis.