

The Antral Artery Anastomosis: An In Vivo Investigation

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The arterial vascular supply of maxillary sinus has to be considered in all the surgical procedures where it is involved. In particular, the intraosseous anastomosis between the posterior superior alveolar artery and the infraorbital artery branches in the bony canal can be tricky to a not well aware clinician (1). The aim of this study is to investigate the arterial blood supply of the maxillary sinus to give clinicians the basis for a better understanding of vascular complications that can derive from surgical procedures at this level. 50 Cone Beam Computed Tomography (CBCT) were analysed by the Imaging software for 3D images, i-Dixel 2.0. The parameters considered have been the presence (i), the calibre (ii), the dorso-ventral length (iii) and the cranio-caudal distance (iv). The data have been processed with Means, Standard Deviations and verified by T-Student test. The statistical outputs showed that less than half of samples presented the intraosseous anastomosis. Those anastomosis resulted both in dorso-ventral way ($13,59 \pm 0,04$ mm) and in cranio-caudal way ($15,38 \pm 0,94$ mm) long. The calibre measurements resulted quite big as well: $1,63 \pm 0,03$ mm. The differences between the right and left sides were found not statistically significant. This in vivo investigation shows how a knowledge of the maxillary sinus vascularization is essential during the programming surgical phase in order to prevent blood complications during the operations involving this region.

References

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Keywords

Cone Beam Computed Tomography, posterior superior alveolar artery, infraorbital artery, complications.