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# An anatomical description of the anterior ethmoidal artery: clinical and surgical considerations

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Anterior Ethmoidal Artery (AEA) is a small vessel, branch of the ophthalmic artery: it arises in the orbit, reaches the ethmoidal labyrinth passing through its bony canal and finally reaches the olfactory fossa, through the lateral of the cribriform plate, along the so-called anterior ethmoidal sulcus [1]. Its anatomy and variations are of outstanding clinical relevance in rhinosinusal surgery, considering its role as a surgical landmark [2], its importance in the therapy of epistaxis [3] and the high risks related iatrogenic injuries [4]. In the present work we provide an anatomical description of anterior ethmoidal artery course and relationships, using in vivo CT Direct Volume Rendering in 18 subjects. The topographical location of 36 anterior ethmoidal arteries was assessed as shown: 10 dehiscent (27.8%), 20 intracanal (55.5%), 6 incomplete canal (16.7%). This work demonstrates that CT-DVR is a valid imaging technique for visualizing topographic anatomical details such as the AEA course, its relations with its bony canal and its possible dehiscence. In addition, it allows to achieve important information in vivo thus representing a useful tool for pre-operatory assessments.

## References

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Key words
Anterior ethmoidal artery, CT, volume rendering.