

# How frequent is ponticulus posticus in Italian people? A lateral cephalometric study in an orthodontic population

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The term “ponticulus posticus” refers to a partial or complete bony arch over the vertebral artery as it crosses the superolateral surface of the posterior arch of the atlas. This anatomical modification is linked to different symptoms, ranging from neckache to headache and migraine (1). This bony arch may also be incorrectly assessed during orthopedic surgery for fixation of C1-C2, with consequent risk of damaging the vertebral artery (2). Its frequency in the general population has been widely analysed by literature in different geographic contexts (3), but an analysis of the prevalence of such feature in the Italian population is still missing. The present investigation aims at providing data concerning the prevalence of ponticulus posticus in a sample of 221 patients. All the patients underwent lateral cephalometry for odontoiatric purposes and none of them was affected by congenital diseases or skeletal deformities. In the analysed sample ponticulus posticus had a prevalence of 7.7% for the complete form, and 9.0% for the incomplete form. Complete and partial forms were observed respectively in 8.8% and 11.0% of males, and in 6.9% and 7.7% of females, without statistically significant differences (chi-square test,  $p > 0.01$ ). Italian prevalence seems lower than that observed in American populations, and higher than that reported in India and Far East countries. The current investigation provided the first data concerning the frequency of posticulus posticus in Italy: further studies are needed in order to widen the sample and improve the analysis by more advanced radiological examinations such as CT and cone beam CT scans.

## References

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## Keywords

Anatomy; atlas; ponticulus posticus; population data.