

Atlas morphology in relation to craniofacial morphology and head posture.

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The associations between dimensions of the first cervical vertebra, atlas, and a representative set of craniofacial and postural variables were studied on cephalometric radiographs of a sample of 103 adult males aged 22-30 years, recorded in the natural head position (mirror position). Atlas morphology was expressed by nine variables, linear and angular craniofacial dimensions by 27 variables, and head and cervical posture by seven variables. A pattern of low but significant correlations was found. Although the correlations were low, the study confirmed that the dimensions of the atlas vertebra reflect associations between cranio-cervical posture and craniofacial morphology. Negative correlations were found between the height of the posterior arch of atlas and the inclination of the mandible and the maxilla to the anterior cranial base. Low positive correlations between the height of the anterior arch and vertical facial dimensions reflect the general co-ordination of the vertical growth of the face and the cervical column. Moreover, the pattern of correlations between the atlanto-cranial angle and facial morphology suggests that in changes of the cranio-cervical angle, atlas follows the cervical column.

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