Anatomical vagaries in maxillo-facial region

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The face is the first point of contact and a vital component of one's personality. Maxillofacial region is important as it contains the systems that control special senses of vision, hearing, smell, taste and vital functions like respiration, deglutition and speech. The face develops from five facial prominences and is therefore prone for many anomalies. The maxillofacial region is the most frequent site of injury in road traffic accidents, assaults and accidents at work. It contains many fascial spaces and soft tissues, varying epithelia with transition zones which predispose it to infections and carcinogenesis.

Facial development starts during fourth post-ovulatory week and is completed at about 18 years of age. Several cell lines contribute to the formation of the face. The embryonic surface ectoderm covers the outer and most of the inner

surfaces of the five processes which contribute to the development of face, oral and nasal cavities and the extensions from them. The underlying mesoderm forms the soft tissues. Angiogenic mesenchyme and migratory neural crest cells contribute significantly in the development of face.

Coordinated post-natal growth of the calvarial and facial skeleton proceeds at different rates and periods. The facial skeleton is modified greatly by development of teeth, muscles of mastication and tongue. In old age, loss of teeth and absorption of alveolar bone accompanied by diminution of size of maxilla reduces the vertical depth of face.

Adult males tend to have larger maxillofacial skeleton than females due to combination of faster rates and longer period of growth during puberty. Maxillary arches are larger in male due to larger tooth size. Geographical variations in the maxilla facial region has been widely studied and Asian skulls are typically wide (brachycephalic), high degree of facial flatness and flat supra nasal region.

Undergraduate students often despise maxillofacial anatomy, then take up the subject during postgraduate studies as a challenge. The relative scarcity of maxillofacial surgeons is probably on account of rather tricky anatomy of this region.

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