

Face and neck development in vertebrates [Desarrollo de cara y cuello en vertebrados]

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The embryonic development of the facial area, neck, nasal, oral and pharyngeal cavities with glands, involves growth and fusion of multi-dimensional processes. There is involvement of elements from the embryo-derived local 3 layers cells further neural crest derived cells from the neighbors rhombomeres. The neural crest cells are involved in the formation of local skeleton, among other structures. The study of evolution from jawless vertebrates shows us how Hox genes are expressed in different species, and how this determines the formation of different structures. The following review contemplate some morphological, molecular and evolutionary basis of facial and neck development, with emphasis on mammals with an epilogue concerning to the face and neck malformations in humans.

Face

Malformations

Neck

Neural crest cells

Pharyngeal arches