Abstract

The fully-formed pharynx is for adult vertebrates indeed a vital structure. The pharynx provides two main functions – dealing with food and breathing. During embryonic development, pharynx is visible like a series of bulges on the lateral surface of the head. Embryonic development of the pharyngeal region starts with evagination of the endoderm to form the pouches, opposit to that the ectoderm invaginates to form the ectodermal clefts. Pharyngeal arches are formed after fusion of these epithelial layers, and pharynx is thus bordered by ectoderm from the inner, and endoderm from the outer side. Each pharyngeal arch consists of mesenchymal core of mesodermal and neural crest derived cells. All vertebrates develop through the so called phylotypic stage, being represented by the – pharyngula with the present pharyngeal arches. Accordingly, it was generally believed that development of the pharyngeal region is rather conservative in all vertebrates. My comparative analysis of pharyngeal development in different vertebrates species reveals that - only early embryonic formation of pharyngeal arches seems conserved, however, that later in development pharyngeal arches form various and diverse derivatives.

Key words: Vertebrates, ectodermal fleft, endodermal pouch, pharyngeal arches, neural crest