ABSTRACT

Background:

The study was undertaken to evaluate the expression of p63 and amelogenin in human tooth germs and ameloblastomas by immunohistochemistry to find out whether the pattern of expression was related to differentiation of ameloblasts.

Materials and Methods:

In this study fifteen human tooth germs of late bell stage, six human tooth germs of early bell stage and fifteen ameloblastoma samples were included and expression pattern of p63 and amelogenin were evaluated individually in all the samples.

Results:

During the early bell stage, p63 expression was intense throughout the enamel organ. But, during the late bell stage, the number and intensity of p63 expression decreases in the cells of enamel organ. The peripheral cells in the ameloblastoma shows variable pattern of p63 expression. Expression of amelogenin was first evident in the presecretory ameloblasts at the cusp tip, followed by secretory ameloblasts and progresses cervically. But in ten late bell stage tooth germs, amelogenin expression was negative in the secretory ameloblasts and positive only at the secreting end i.e. tomes process. Intense staining was evident at the enamel matrix and in some dentinal tubules nearer to enamel matrix secretion. No amelogenin expression was evident in the dental papilla cells or odontoblasts throughout odontogenesis with the exception of dental
Amelogenin expression was absent in eleven cases of ameloblastoma, but in four cases positive expression was evident at the peripheral cells.

**Conclusion:**

In the present study, the expression pattern of p63 and amelogenin in human tooth germ and ameloblastoma correlates with cytodifferentiation of ameloblasts.

**Keywords:** human tooth germ, ameloblastoma, p63, amelogenin, immunohistochemistry.