



**“THE ASSESSMENT AND COMPARISON OF ANGIOGENESIS IN
AMELOBLASTOMA, KERATOCYSTIC ODONTOGENIC TUMOUR AND
DENTIGEROUS CYST - AN IMMUNOHISTOCHEMICAL STUDY”**

by

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ABSTRACT

Background and objective: The aim of the present study was to evaluate and compare angiogenesis in ameloblastomas, keratocystic odontogenic tumours (KCOT) and dentigerous cysts (DC) using monoclonal antibody against CD34 and to study the role of angiogenesis in the pathogenesis. Also to further classify the blood vessels in the above mentioned odontogenic lesions.

Material and methods: A total of fifty confirmed cases consisting of 20 ameloblastomas (10 follicular ameloblastoma and 10 plexiform ameloblastoma), 20 keratocystic odontogenic tumour and 10 dentigerous cyst were evaluated immunohistochemically using CD34. Microvessel density was expressed as the mean of blood vessels in four high-power-fields.

Results: Statistically significant differences in mean microvessel density were observed between ameloblastomas, keratocystic odontogenic tumours and dentigerous cysts ($P = 0.001$). Mean microvessel density was significantly higher in ameloblastomas compared with both keratocystic odontogenic tumours and dentigerous cysts; and was also significantly higher in keratocystic odontogenic tumours than in dentigerous cysts.

Statistically significant differences in mean microvessel density of immature ($P = 0.0360$) and mature ($P = 0.0200$) blood vessels were also observed between ameloblastomas, keratocystic odontogenic tumours and dentigerous cysts. Mean microvessel density of immature and mature blood vessels was higher in ameloblastomas compared with both keratocystic odontogenic tumours and dentigerous cysts.

Conclusion: It can be suggested that angiogenesis may be one of the mechanisms possibly contributing to the different biological behaviors of ameloblastomas, keratocystic odontogenic tumours and dentigerous cysts.

Keywords: ameloblastoma; keratocystic odontogenic tumour; dentigerous cyst; angiogenesis; CD34; mature blood vessels; immature blood vessels; immunohistochemistry.