Journal section: Oral Medicine and Pathology
Publication Types: Research

doi:10.4317/jced.52843
http://dx.doi.org/10.4317/jced.52843

p53, p63 and p73 expression and angiogenesis in keratocystic odontogenic tumors

Soranun Chandrangsu [1], Kraisorn Sappayatosok [2]

[1] Department of Oral Pathology, Faculty of Dentistry, Chulalongkorn University, Bangkok, Thailand
[2] Assistant Professor, Faculty of Dental Medicine, Rangsit University, Thailand

Correspondence:
Faculty of Dental Medicine
Rangsit University, 52/347 Muang-Ake
Phaholyothin Road, Lak-Hok, Muang
Pathumthani 12000 Thailand
skraisorn@yahoo.com

Received: 09/11/2015
Accepted: 17/02/2016

Chandrangsu S, Sappayatosok K. p53, p63 and p73 expression and angiogenesis in keratocystic odontogenic tumors. J Clin Exp Dent. 2016;8(5):e505-11.
http://www.medicinaoral.com/odo/volumenes/v8i5/jcedv8i5p505.pdf

Indexed in:
Pubmed
Pubmed Central® (PMC)
Scopus
DOI® System

Abstract

Backgrounds: Keratocystic odontogenic tumors (KCOTSs) are odontogenic tumors previously referred to as odontogenic keratocysts. Several studies have reported that KCOT behavior is more like that of a benign neoplasm than a cyst. KCOTs are locally destructive and exhibit a high recurrence rate. The objective of this study is to characterize the expression of p53, p63 and p73 in KCOTs together with the relationship between their expression and KCOT angiogenesis and recurrence.

Material and Methods: Standard indirect immunohistochemistry using monoclonal antibodies specific to human p53, p63, p73 and CD105 was performed in formalin-fixed paraffin-embedded tissue sections of 39 KCOT samples. Grading of p53, p63 and p73 immunohistochemical staining was divided into three groups, whereas microvessel density (MVD) was presented as the mean +/- standard deviation. Associations between p53, p63 and p73 expression and clinical-pathological parameters were analyzed by Fisher's exact test, whereas associations among MVD levels, clinical and pathological parameters and p53, p63 and p73 expression were analyzed by the Mann-Whitney U test. Correlations among p53, p63, p73 and MVD levels were analyzed using Spearman's correlation coefficients. For all analyses, $p < 0.05$ was considered to indicate statistical significance.

Results: p53, p63 and p73 expression was noted in 23, 32 and 26 of 39 KCOT cases, respectively. The mean MVD was 26.7 ± 15.8 per high-power field. In addition, correlations between the expression levels of p53, p63, p73 and MVD in KCOT were examined. Statistically significant positive relationships were noted for all proteins ($p<0.001$).

Conclusions: Three members of the p53 protein family are expressed in KCOTs, and their expression relates to angiogenesis in these tumors.

Key words: *p53, p63, p73, angiogenesis, keratocystic odontogenic tumors.*