

Clinicopathological characteristics and expression of CD 10 in soft tissue lesions associated with impacted third molar

Rabia Anjum, Nadia Naseem and A. H Nagi
University of Health Sciences Lahore, Pakistan

Impacted teeth are prevented from eruption by a physical barrier within the path of eruption. Pathological changes from inflammatory to neoplastic including pericoronitis, dentigerous cysts, odontogenic keratocysts and ameloblastoma are associated with impacted third molar. High CD10 expression predicts the neoplastic potentiality of dentigerous cyst and locally invasiveness/recurrence in ameloblastoma.

This study was designed to observe the pathological changes with impacted third molar and to determine the immunohistochemical expression of CD10 in dentigerous cysts and ameloblastoma. Soft tissue specimens were taken from dental follicle or pericoronal tissue of 100 patients. Gross, microscopic findings and CD10 expression was noted in dentigerous cysts and ameloblastoma.

Mean age of the patients was 27.58 years with the male to female ratio being 1.2:1. Common presentations were pain (85%), limited mouth opening (25%), gingival redness and swelling (77%), pericoronitis (74%) and hard swelling in posterior region of mandible (4%). A total of 43% were completely while 57% were partially bony impacted. On radiography, 59% mesioangular, 26% vertical, 9.0% horizontal and 6.0% distoangular impactions were seen. Two patients presented with large radiolucent lesions.

Microscopically, epithelial hyperplasia (62%), basal layer atypia (30%), surface ulceration (22%) and papillomatosis (15%) were seen. Connective tissue changes were inflammation (92%), hyalinization (62%), fibrinoid necrosis (45%) and calcification (14%). Among inflammation 45%, 32% and 15% biopsies showed mild, moderate and severe degree of inflammation respectively. Dentigerous cysts in 3% while 1% of cases each of odontogenic keratocyst and plexiform ameloblastoma was found. Positive CD10 cytoplasmic & membranous immunoreactivity in epithelial lining and the stellate reticulum like cells were seen in the dentigerous cysts and ameloblastoma.

Impacted third molar is associated not only with inflammatory changes but also with cystic and neoplastic changes. Also the high expression of CD10 indicates the neoplastic potential of dentigerous cyst and invasive/recurrence potential of ameloblastoma respectively.

Biography

Rabia Anjum is a postgraduate student of M Phil in Oral Pathology at University of Health Sciences Lahore, Pakistan and has completed her M Phil research titled, "Pathological Changes In Soft Tissues Associated With Impacted Third Molar". She has, on her credit one poster presentation of her research work at the Pakistan Association of Pathology Annual Conference, 2013. Earlier, she acquired her Bachelors in Dental surgery in 2007 and worked as a junior lecturer in Lahore Medical and Dental College Lahore, Pakistan.

dr.rabianjum@gmail.com