GLOBULOMAXILLARY CYST: GAME OVER!
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ABSTRACT:
The originally described globulomaxillary cyst was acclaimed to be a fissural cyst arising from epithelium entrapped during fusion of the globular portion of the medial nasal process with the maxillary process. However, electron microscopic studies have disproved the concept of fusion during the embryonic development of this area. Therefore, the pathogenesis of globulomaxillary cyst is doubted. This unsolicited commentary argues that there is no embryologic or pathologic basis for what so-called globulomaxillary cyst, and thus should no longer be considered as a recognized pathologic entity.

المتاتلعبعريبي
كيس الفك العلوي الكروي
جلالهالعميمي، عيادات تشخيص أمراض الفم، كلية طب الأسنان، جامعة هونج كونج، هونج كونج
في الوصف الأصلي لكيسم الفك العلوي الكروي اعتقد أنه كيس شقي ناتج عن التحام الجزء الكروي للجهاز الأنفي الأوسط مع جهاز الفك العلوي. حيث أنه بعض الدراسات التي أجريت تحت المجهر الإلكتروني فنعت هذا المعتقد، لذلك يشكك في كيسان تكوين الفك العلوي الكروي. هذه الاختلافات والتعليقات الغير مرغوب فيها تفيد بأنه لا يوجد أساس مرضي أو عامل جيني لما يسمى كيس الفك العلوي الكروي، وبالتالي لا ينبغي اعتباره كيان مرضي معترف به.
HISTORIC BACKGROUND:

The globulomaxillary cyst was first described by Thoma in 1937 when he merely presented a report of a lateral radicular cyst that occurred in association with non-vital maxillary lateral incisor.\(^1\) It was classically considered to be an inclusion or developmental cyst that arose from entrapped, non-odontogenic epithelium in the junction of the globular portion of the medial nasal process and the maxillary process. The cyst has habitually been described as asymptomatic and appeared on radiographic examination as inverted-pear shaped radiolucency between the roots of the maxillary lateral incisor and canine. Histologically, the cyst cavity is lined by ciliated columnar or stratified squamous epithelium, and the supporting fibrous capsule often exhibits an inflammatory cell infiltrate.\(^2\) The 1\(^{st}\) edition of WHO Histologic Typing of Odontogenic Tumors, Jaw Cysts, and Allied Lesions, compiled in 1971 by Pindborg and Kramer included the term “globulomaxillary cyst”.

CONTRAVERSIES:

Christ in 1970 reviewed 27 cases of his own records that have previously been diagnosed as globulomaxillary cysts; 24 turned out to be inflammatory cysts, 2 keratocystic odontogenic tumors, and 1 lateral periodontal cyst.\(^3\) Wysocki in 1981 analyzed 37 cases that had been diagnosed clinically as globulomaxillary cysts. On histological examination, 19 were radicular cysts, 6 periapical granulomas, 4 lateral periodontal cysts, 3 keratocystic odontogenic tumors, 3 central giant cell granulomas, 1 calcifying odontogenic cyst, and 1 odontogenic myxoma.\(^4\) During the 80’s, most oral pathologists and radiologists have stopped using the term “globulomaxillary cyst” as a diagnostic term and have accepted the fact that a number of odontogenic cysts, including radicular, lateral periodontal, keratocystic odontogenic tumors, adenomatoid odontogenic tumors, and calcifying odontogenic cyst can appear radiologically as globulomaxillary radiolucencies. This acceptance was reflected by the fact that the term “globulomaxillary cyst” had been dropped out from the 2\(^{nd}\) edition of WHO Histologic Typing of Odontogenic Tumors, Jaw Cysts, and Allied Lesions, compiled in 1992.

ARGUMENTS:

1) Fusion of facial processes does occur and epithelium (nasal fin) is entrapped between medial nasal, lateral nasal, and maxillary processes.\(^5\) The term “fusion” is misleading, i.e., the facial processes are mesenchymal swellings that cause furrows between apparent processes, so that the ostensible fusion of processes actually involves the elimination of a furrow by the continued growth of the underlying mesenchyme.\(^6\) On the basis on this view, development of the anterior maxilla occurs by the merging of growth centers rather than fusion of facial processes. So no ectodermal entrapment can occur, and therefore the globulomaxillary cyst cannot ensue.

2) Cysts in the globulomaxillary area have reportedly been lined by respiratory epithelium.\(^2\) This observation could be explained on basis of the close proximity to the sinonasal cavity. It also could be explained by epithelial metaplasia, as respiratory epithelium lining has been reported in inflammatory cysts in the mandible.

3) Globulomaxillary cyst should be considered the intraosseous counterpart of the nasolabial cyst.\(^5\) There is no any scientific justification of this assumption. On the other hand, there is general consensus among oral pathologists that nasolabial cyst does arise from ectopic epithelium of the lower portion of the nasolacrimal duct.\(^7,8\)

In conclusion, there is no scientific evidence supporting the existence of globulomaxillary cyst; therefore, this entity should no longer be accepted as a pathologic diagnosis.

REFERENCES: