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BRANCHIAL CYST OF THE NECK

—Report of a case—

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頸部의 Branchial Cyst

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》國文抄錄《

著者들은 서울大學校 齒科大學 附屬病院에 來院한 23歲의 男子 患者로부터 Branchial cyst의 一例를 中心으로 病理學的으로 觀察한 바 다음과 같은 結果를 얻었다.

1 右側 下顎骨 隅角部下 頸部에 腫脹이 있었으며 波動이 촉지 되었다.

2. 摘出된 組織은 2.5×3×1.5cm 크기의 楕圓形 囊腫으로 腫物로부터 黃灰色 半固形液體가 流出되었다.

3. 顯微鏡的所見은 囊腫壁이 얇은 膠原纖維囊으로 結合組織과 重層扁平上皮로 構成되었으며 胚中樞를 보여주는 結節樣淋巴組織과 慢性 炎症細胞浸潤이 上皮下에 出現하였다.

INTRODUCTION

It is well known that the branchial cyst is a rare one which usually occurs on the lateral aspect of the neck and it is usually painless, semifixed, and fluctuant [1)2)···12)]. It has been reported that these branchial cysts are usually found in the superficial position near the angle of the jaw, but occaisonally they are found in the floor of the mouth [2)3)4)] and rarely in the pharynx[7)]. By the pressence of the lymphoid tissue and glandular epithelium or by the other's belief concerning the cyst's origin, the nomenculature concerned with this type of cyst which occurs near or in the oral cavity is various. These lesions have been variously termed as lymphoepithelial cysts, branchial cleft cysts, branchiogenic cysts, branchial cysts, pseudo cysts, and benign cystic lymphnodes [2)3)5)8)]. The origin of the cyst is not obvious, but some reported that it is a simple developmental anomally[2)]. Mc lealy(1942)[1)], King(1949)[8)], Gold(1962)[2)], Calman-(1963)[3)] and others reported individual cases, and Baskar(1966)[5)] published the series of lymphoepithelial cysts in the oral cavity. This is a report of a branchial cyst from

23 year old man who visited the infirmary of dental college, Seoul National University, and had the history of surgery under the diagnosis of nonspecific chronic inflammation.

CASE REPORT

The patient was a 23-year-old man who complained the swelling of the right lateral aspect of the neck.

History of present symptoms:

For approximately 4 months previous to examination, he found painless swelling on the right submandibular area, washing his face. Shortly thereafter, he was checked by chest x-ray taking, sputum cultures and biopsy at the infirmary of medical college, Seoul nat. univ. However these were essentially negative but biopsy result was a nonspecific chronic inflammation. And he was to be taken antibiotic theraphy. However, nowadays the small growing mass came to develope as a size measured 2.5 by 3 by 1.5cm. Therefor he visited the infirmary of Dental college, Seoul National University.

Family and medical history:

The Familly and medical history was noncontributory. Physical examination disclosed a well developed and fairly well-nourished man. The palpable mass on the right submandiblar area of the neck was sessile, raised, moderately compressible.

Operation:

This was not painful but tender to palpation. Under the local anesthesia, the lesion was totally excised. Healing was not eventful.

HISTOPATHOLOGY

Gross finding

The specimen consisted of an ovoid buff cyst sac measured 2.5 by 3 by 1.5cm. The cyst contained graish yellow sticky fluid and had a smooth lined inner surface.

Microscopic Examiation

The cyst wall consisted of fibrous connective tissue lined with stratified squamous epithelium. The lining epithelium showed slight keratinization. The basal layer was well demarkated from the underlying connective tissue and the aggregation of lymphocyte in follicles was shown in the connective tissue wall.

Diagnosis: Branchial cyst.

DISCUSSION

A review of dental literatures reveals a little information concerning branchial cyst. Including that Baskar and Bernier (1958)[10] described relatively in detail about branchial cyst, many scholors reported the cases. But the origin and etiology remain still confused. There are two possible theories that explain the origin of branclnial cyst. The first is based on incomplete closure of branchial cleft apparatus when they are developing in embryonic state. And the second theory suggests that they arise from the

alteration of embryonic thymic tract or embryonic thyroid tissue. But in the case of latter, an absence of this tissue in histologic sections of these cysts probably negates this suggestion. Bernier (1958)[10] stated that probably fewer than 5% of their reported branchial cleft cysts are derived from branchial apparatus, and they concluded that at least 85% and possible 96% of branchial cysts are, in reality, cystic lymphnode. But, actually, considering the disappearance of the branchial apparatus after 8 weeks in utero and cervical lymphnodes begin to appear after 9 week, it is unlikely that the epithelial lining of these cysts is derived from the branchial apparatus.

Little (1964)[12] asserted that close association in anatomical view between parotid gland and cervical lymphnode suggests a possible correlation between the epithelial lining and primitive glandular tissue. This theory is subscribed to many others. Clinically, branchial cyst occurs on the lateral aspect of the neck as a well circumscribed painless, and fluctuant swelling [1)2)3)]. 10-15% of branchial cysts occur near the angle portion of the mandible and rare cases in the floor of mouth was reported [3)4)5)6)9)]. This case we are reporting occured on the right submandibular area of the neck. Predilection age when this slow growing mass become apparant was said from 2nd decades to 3rd decades. Stainly Weizter (1970)[7] reported in his 18 cases that ages ranged from 8 to 69 years. 12 patients were 39 years or older including six in the group aged 50 to 59 years. And no predilection for either sides. No difference in sex. Carl Gold(1962)[9] reported that branchial cyst is a developemantal anomaly that appears as a painless fluctuant swelling, but when it is with secondary infection tenderness may appear.

In this case we observed 23 year old male patient had a slight tenderness to palpation and some degree of trismus causing secondary infection that are probably considered. Little (1964)[12] stated that 70% of the cases of branchial cysts was composed of stratified squamous epithelium which shows slight keratinization, and 19% of the remain ing 30% was lined with pseudocolumnar "Respiratiory" epithelium or mixed form with stratified squamous epithelium. In the 13 cases of the 16 cases, Steinly Weitzer(1970)[7] reported the epithelial lining was columnar, primarily of pseudo stratified ciliated type, squamous in two, and not specified in the other. Sedg-wick and Walsh(1958)[3] reported that 56 of 59 cases has stratified squamous epitchelium, fibrous walls, and numerous lymph follicles. The cyst capsule may be either dense fibrous or loose and areolar[3]. The lymphoid tissue which is pressent in the walls of most branchial cyst shows typical lymphnodule pattern. And this connective tissue is usually separated from the lining epithelium by a basemen tmambrane[10].

In the case authors observed, cyst wall was composed of stratified squamous epitheilum which in areas shows some degree of keratinization. And basementmenbrane is seen partially separated from underlying fibrous tissue which is composed of loose collagenous bundles and presents lymphoid tissue showing germinal center, and it also reveals inflammatory infiltration.

The lummen of the cyst is reported filled with thick yellowish material containing many cholesterol crystals [11]. In our case, we observed grayish yellow sticky fluid escaped from the cyst sac. And this material that the cyst contained is considered to be

altered by the inflammatory condition or hemorrhage.

Branchial cyst clinically does not have any distinguishing sign, so that one should defferentiate from the lesions which may appear in this area. Tuberculous lymphnodes, lipoma, cystic hygroma, carotid body tumor, dermoid cyst, Thyroglossal duct cyst, lymphoma, mucous retension cyst, metastatic neoplasm, suppurative lymphoadenitis and etc. would be confused with branchial cyst. But doing biopsy we can easly diagnose branchial cyst from those lesions by histologic features. the case reporting here is believed to have been of branchial derivation because of its location and its microscopic features. Since nomenclature and derivation of branchial cyst are various, authors report this case as a branhial cyst for categorical convenience.

SUMMARY

Authors have observed a case of branchial cyst from 23 year old male patient who visited the infirmarmary of Dental College, Seoul Nat. Univ. The result were as follows.

1) Circumscribed swelling on the left submandibular area of the neck was fluctuant.
2) Enuclated tissue revealed oval buff cyst sac measured 2.5 by 3 by 1.5cm and graish yellow sticky fluid escaped from the sac.
3) Microscopically the cyst wall was composed of a thin band of dense fibrous connective tissue lined with stratified squamnus epithelium. And lymphoid tissue showing germinal center in areas is characteristic in subepithelial layer with chronic inflammatory cell infiltration.

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조한국 · 김현풍 · 여인행
유태영 · 임창윤

논문 사진부도

Fig. 1(H-E. X100)

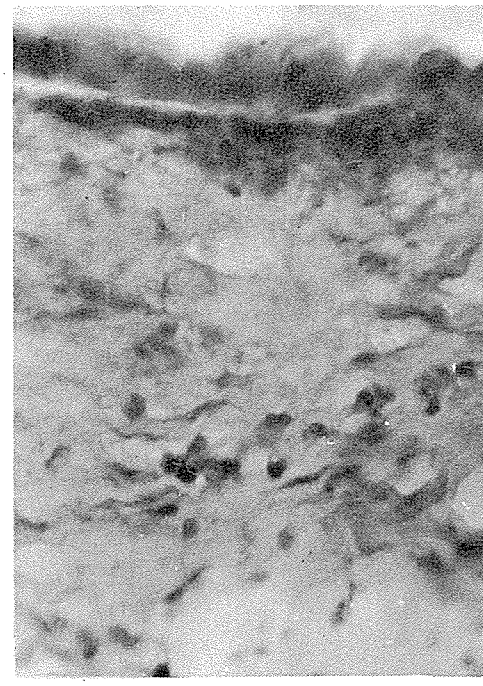

Fig. 2(H-E. X400)

Fig. 3(H-E. X100)

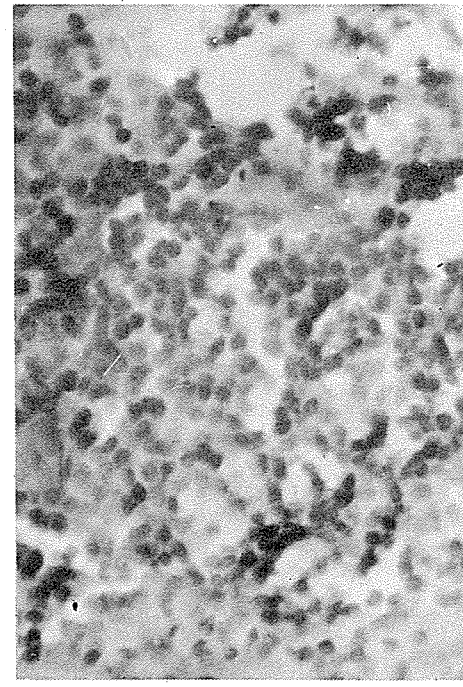

Fig. 4(H-E. X400)