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| 原文題目(出處)： | Immunohistochemical detection of laminin-1 and Ki-67 in radicular cysts and keratocystic odontogenic tumors. BMC Clinical Pathology 2011,11:4. |
| 原文作者姓名： | Mohamed S Ayoub, Houry M Baghdadi, Moataz El-Kholy |
| 通訊作者學校： | Oral Pathology Department, Faculty of Dentistry, Ain Shams University, Cairo, Egypt |
| 報告者姓名(組別)： | 陸弘志 Intern E組 |
| 報告日期： | 101/1/16 |

內文：

Background

1. Radicular cysts (RCs) are a direct sequel to chronic apical periodontitis- epithelial rests of Malassez.
2. Keratocystic odontogenic tumor (KCOT), known as odontogenic keratocyst (OKC),a developmental odontogenic cyst from the dental lamina remnants .
3. Expression of laminin-1 in normal oral mucosa , odontogenic cysts and odontogenic tumors was examined in several studies.
 - A. Sections of normal oral mucosa and odontogenic cysts stained for laminin-1 showed a distinct linear deposit of strong intensity at the basement membrane junction but not in the cytoplasm of the epithelial cells.
 - B. Sections of odontogenic tumors stained for laminin-1 showed strong reactivity at the basement membrane junction as well as in the cytoplasm of all tumor cells.
4. The expression of laminin-1 in the cytoplasm of the tumor cells, but not in the normal mucosa may be a useful marker to distinguish these two types of epithelium and it may suggest that laminin-1 influences the proliferation activity toward tumor potential .
5. Ki- 67 antigen is the prototypic cell cycle related nuclear protein, expressed by proliferating cells in all phases of the active cell cycle (G1, S, G2 and M phase) and reaches a peak in the G2 and M phases.
6. It rapidly degrades after mitosis .
7. Ki-67 antibodies are useful in establishing the cell growing fraction in neoplasms.

Method

1. Specimen selection

25 formalin-fixed ,paraffin-embedded tissue blocks of odontogenic cysts .

13 cases were diagnosed as radicular cysts (RCs) and 12 cases were diagnosed as keratocystic odontogenic tumors (KCOTs) .

2. Immunohistochemical procedures

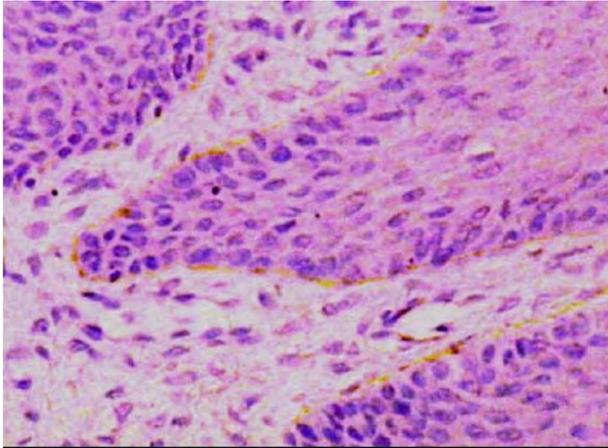
All specimens is 4µm sections

- A. Cut and mounted on positively charged glass slides.
- B. Deparaffinized with xylene and rehydrated in graded ethyl alcohol
- C. Immersed in citrate buffer solution of pH 4.8
- D. Put in the microwave oven before staining procedures.
- E. For immune staining a universal kit (R&D Systems;USA) was used

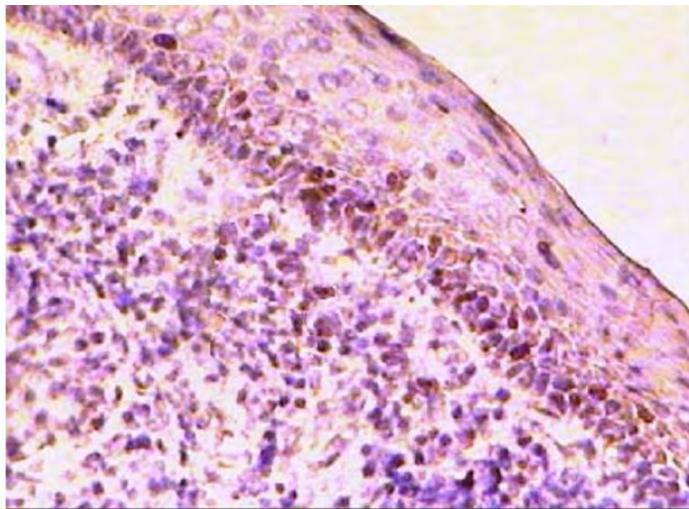
Results

I. Immunohistochemical Results

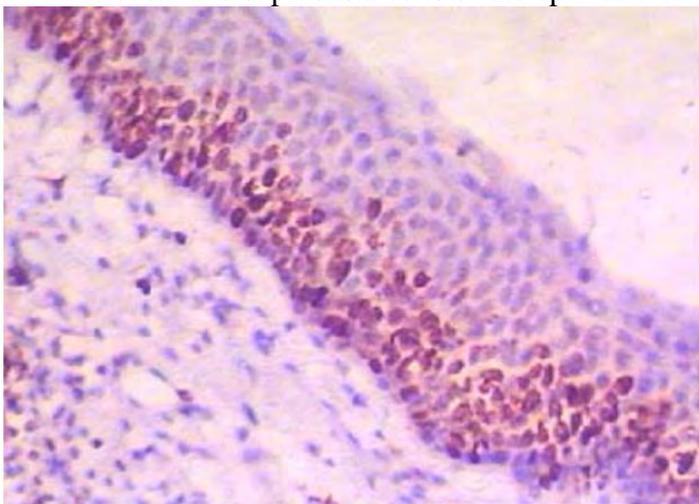
- A. 10/13 RCs were immunopositive to laminin-1 representing 76.9% .



- B. 1/12 KCOTs revealed immunopositive reaction to laminin-1 representing 8.3% .
C. 7/13 RCs were immunopositive to Ki-67 representing about 53.8 % where there was severe inflammation in the connective tissue.



- D. 12/12 KCOTs were positive for Ki-67. The reaction was nuclear and confined to the basal and suprabasal cells of the epithelial lining .



Discussion

1. Negative immunostaining for laminin-1 was observed in 3 cases of RCs (23. 1%) that showed severe inflammatory reaction in the connective tissue wall of cysts.
 - Furuyama said ability of epithelial cells to form continuous basement

- membrane was lost in the presence of inflammatory cytokines.
2. Negative immunoeexpression of laminin-1 in 11/12 cases of OKCs, was concluded that laminin-1 was expressed in RCs, dentigerous cysts and odonto-genic keratocyst with different distribution patterns and intensity.
 - Gurgel et al, said 20/20 cases of OKS expressed laminin-1 in areas of acanthosis, subepithelial split and epithelial buds.
 3. 7/13 of RCs included in the present study were immunopositive for Ki-67, which represent 53.8% of the total cases.
 - Willoughby et al. concluded that mild inflammatory injury stimulates epithelial proliferation, whereas more severe inflammation depresses it, perhaps due to more extensive progenitor-cell damage

Conclusions

1. The benign nature of radicular cysts and the aggressive behavior of keratocystic odontogenic tumors could be explained by the expression of laminin and Ki-67.
2. Laminin-1 and Ki-67 could be valuable markers for the prediction of the biologic behavior of cystic lesions.

| 題號 | 題目 |
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| 1 | Which is a component of the nevoid basal cell carcinoma syndrome? (A)KCOT(keratocystic odontogenic tumor) (B)COC(Calicifying odontogenic cyst) (C)AOT(Adenomatoid odontogenic tumor) (D)SCC(Squamous cell carcinoma) |
| 答案(A) | 出處：Oral & Maxillofacial Pathology 3 rd ED P.688 |
| 題號 | 題目 |
| 2 | 下列何種顎骨囊腫最容易變成Ameloblastoma ,所以治療時比較傾向以積極之手術來治療? (A)Dentigerous Cyst (B)Radicular cyst (C)Residual cyst (D)Primordial cyst |
| 答案(D) | 出處：Oral & Maxillofacial Pathology 3 rd ED P.683-6. |