

Case Report

The Manifestation of Tumor of Enamel Organ Epithelium

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ABSTRACT:

Tumor of enamel organ epithelium is a rare benign neoplasm of odontogenic tumor, no symptoms until the patients got severe disease and they are also late to come to the dentist. It can reach a large size which may eventually cause facial deformity. Case report presented was a female of fourteen-year-old came to clinic, suffered swelling in left anterior maxilla, on a region 21 22 23 there was a swelling with a size of 2.5 x 2 x 1 cm, the surface is smooth, the mucous color matches the surrounding oral tissue. On palpation border of the swelling in a region 22 23 24 with a firm consistency, and 22 23 were missing. In radiologic picture showed 22 23 impacted and with a well-defined circular radiolucent area with a diameter of about 2 cm, in the circle there was an area of calcification. In histopathological showed the inner center is like a gland of epithelial cells. They are cuboidal cells with nucleus in basal. These tumors experienced morphodifferentiation to facilitate the epithelial columnar cells becomes higher and a lumen part is eosinophil suspected hyaline secretion by preameloblast cells. Tumor of enamel organ epithelium treatment is surgical with enucleation, 22 23 were odontectomy and she was given antibiotics, analgesics and vitamin. Recurrence is rare. Conclusion: Tumor of enamel organ epithelium is rare benign neoplasm of odontogenic tumor, it is difficult to be diagnosed clinically, except radiologic and histopathologic examination. The treatment is surgical with enucleation.

Key words: Tumor, enamel, organ, epithelium

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INTRODUCTION

Cases of odontogenic tumors are rare, one of these tumors clinically resembles a dentigerous cyst and on radiographs it looks like a calcified cyst, even close to an odontoma. Tumor of enamel organ epithelium is an epithelial odontogenic tumor that has a gland-like structure and changes in the connective tissue.¹ The origin of this tumor is unknown, possibly from odontogenic.²⁻⁵ According to a research, this tumor originates from the odontogenic epithelium specifically the Hertwig's epithelium.⁶ This tumor is encased in a connective tissue capsule that resembles a cyst, and their walls are full of tumor tissue.²⁻⁶ Tumor of enamel organ epithelium has several names; cystic complex composite odontoma, adenoameloblastoma, glandular ameloblastoma, adenomatoid tumor odontogenic, adenomatoid ameloblastic tumor, cystic compound odontoma.^{2,3,7,8} Tumor of Enamel Organ Epithelium is a 3% of all odontogenic in the jaw.^{2,4,5} This tumor was first

discovered by Stafne in 1948.¹ This tumor can occur at any age, but often occurs in 11-21 years old.¹ Prevalence in females twice than males. This tumor occur in the maxilla (60-70%), usually in the anterior teeth region. Approximately 70% of these cases have impacted teeth, canine or lateral incisors in the maxilla, or first premolars in the mandible.

CASE REPORT

The case report presented was a female of fourteen-year-old was coming to a clinic suffered from swelling in the left anterior maxilla. Her gum has been swollen, painless, which was getting bigger since 6 months ago. Extra oral examination: on inspection there was no abnormality, on palpation there was a swelling under the corner of the nose, which cannot be moved from its base and hard consistency. Intra oral examination: lips, palate, tongue, tonsils and floor of the mouth were normal. On the region 21 22 23 there was a swelling with a size of 2.5 x 2 x 1 cm, the

surface is smooth, the mucous color matches the surrounding oral tissue. On palpation of a border of the swelling in a region 22 23 24 with a firm consistency, and 22 23 were missing, tooth 36 is necrotic. Radiograph examination; Intraoral periapical showed that in the region of 22 23 24 there was 22 impacted tooth with a well-defined circular radiolucent area, about 2 cm in diameter, in the circle there was an area of calcification (Figure 1);

Figure 1. Intraoral periapical showed the presence of a 22 impacted, in the circle there was an area of calcification (arrow)



While on an occlusal radiograph confirm the presence of a 22 23 impacted teeth with a well-defined circular radiolucent area with a diameter almost 2 cm, in the circle there was an area of calcification (Figure 2).

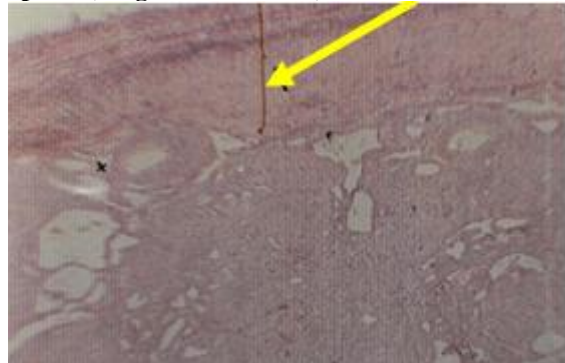
Figure 2. Occlusal radiograph confirm the presence of a 22 23 impacted teeth (arrow), there is a well-defined circular radiolucent, in the circle there was an area of calcification



The lesion was removed by extracapsular excision, a 22 23 were odontectomy and she was given antibiotics, analgesics and vitamin. Pathologic examination: The specimen consisted of spherical tumor 2 cm in diameter, with a smooth outer surface. On section, there was a well-defined capsule 1 mm in thickness, surrounding the entire lesion.

Histopathological examination shows that the tumor is covered by capsule (Figure 3),

Figure 3. A tumor mass and it is covered by capsule (Magnification 100x)



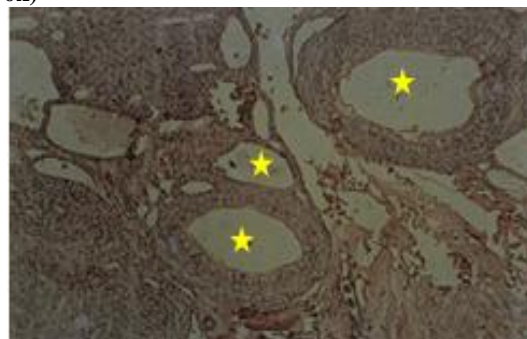
which consists of dense connective tissue (Figure 4).

Figure 4. The capsule consists of dense connective tissue (Magnification 400x)



The tumor is consisting of thoracic to cuboidal cells that grow hyperplastic. The tumor cells were arranged in groups of islands separated by thin hoops, many lymphocyte cells were found, This gland-like cells containing acidophilic hyaline amorphous or fibrillar material and several had cystic degeneration with calcification (Figure 5).

Figure 5. The tumor cells were arranged in groups of islands and gland-like cells (star) (Magnification 100x)



This tumor undergoes morpho-differentiation, the cuboidal epithelial cells become taller and resembles a cube, a lumen is seen as an amorphous mass which is thought to be secreted by cells that resemble preameloblast.

DISCUSSION

According to a research, most author have considered the tumor of enamel organ epithelium described to be of dental origin because of its histopathological examination and its association in many cases with impacted teeth. It has also been thought that in some cases it might originate from epithelial Hertwig's rests in the closure of the globular and maxillary processes. Tumor of enamel organ epithelium is odontogenic tumors, it is like dentigerous cyst. This case areas often found in the jaw (3%). According to research in Africa reveals that a 33 cases was occurring in young adults, with distribution in females twice than males. A 60-70% occurs in the maxilla, 30-40% occurs in the mandible, this tumor usually occurs in the anterior region, especially the canine, this tumor is associated with impacted teeth (66%).²⁻⁷ Pathogenesis, in its development this tumor is associated with Hertwig's epithelial rests which affected by inflammation, infection. Due to these stimuli, proliferation and degeneration occur to form a cavity. Odontogenic tumors can occur at a stage of tooth formation. Histopathologically examination gives an information that this tumor has glandular-like cells, this is thought to originate from the epithelium of oral cavity. The process of formation is not only from the odontogenic epithelium but also from a glands around the oral cavity. According to a research that tumor of enamel organ epithelium is a follicular cyst with intracystic epithelial proliferation.²⁻⁷ Histopathologic examination shows that the tumor is covered by capsule which is consists of dense connective tissue. The tumor is consisting of thoracic to cuboidal cells that grow hyperplastic. The tumor cells were arranged in groups of islands separated by thin hoops, many lymphocyte cells were found, gland-like cells containing acidophilic hyaline amorphous were also seen and several had cystic degeneration with calcification. This tumor undergoes morphodifferentiation, the cuboidal epithelial cells become taller and resembles a cube, a lumen is seen as an amorphous mass which is thought to be secreted by cells that resemble preameloblasts. According to a research, the amorphous mass is glycogen. This is closely related to the origin of this tumor, specifically oral cavity which contains a lot of glycogen. Development occurs while the embryo is 6-8 weeks old. This is the initial stage of tooth growth and development which will then form outer enamel epithelial cells, intermedium cells, stellate reticulum cells and inner enamel epithelial cells.²⁻⁷ Radiologic examination of tumor of enamel organ epithelium is similar to a lesions of dentigerous cyst, calcifying odontoma, periodontal cyst, but tumor of enamel organ epithelium is seen as a well-defined radiolucent area and radiopaque appearance of varying degrees. The diameter of this tumor is about 1-2 cm, the tumor tissue can expand to the cortical plate. In general this tumor is accompanied by impacted teeth.^{2-5, 9-11} The clinical examination of tumor of enamel organ epithelium is generally similar

to a cyst, without manifest symptoms, until the tumor reaches a large size and causes facial deformity. On intra-oral examination found no ulceration, no oral mucous hyperemia. On palpation painless, crepitus sometimes occurs when most of the bone has been destroyed. This tumor can be found positive fluctuations when it has hit the soft tissue. Missing teeth were found, especially in the anterior teeth, usually the maxillary canines or the mandibular first premolars. The tumor mass then it will press the teeth to facilitate the teeth appear to migrate. This tumor often occurs in the second decade of life, generally occurs in females than males with a ratio of 2:1. In determining the prognosis, if found early stage, the prognosis is better. According to a research in general, after surgery and removal of the tumor mass, the results are very satisfactory and there is no recurrence. Prior to surgery, the patient must have blood examinations to know if the patient is in good health, which is an indicator for surgery. Tumor of enamel organ epithelium can be performed under local anesthesia, followed by enucleation while extracting the impacted tooth.^{2-7, 9-11} Complications that occur after surgery are edema, infection, hematoma, bleeding and large bone defects. An edema that occurs after jaw surgery is normal, most surgeries in the jaw are traumatic in nature, and result from long acting manipulation of the bone and soft tissue. This state can stimulate the release of lymph fluid into the operating area. Edema usually occurs until the second day, then gradually decreases. Swelling can be relieved by the administration of anti-inflammatory drugs. The possibility of infection can be prevented by taking antibiotics. Bleeding and hematomas can be prevented by blood tests, then abnormalities can be identified as early as possible. The operator must work carefully in order to minimize the trauma factor. If there is large bone defects, it can be filled with pelvic bone to prevent bone fractures.^{2,3}

CONCLUSION

Tumor of enamel organ epithelium is a benign odontogenic tumor that is difficult to diagnose clinically, with the support of radiological and histopathological examination, surgery and careful enucleation can be performed.

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