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Case Report

Follicular Ameloblastoma of Maxillary: A Case Report

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Abstract

Background : Ameloblastoma is a benign odontogenic tumor that appears in the mandible and maxilla. Ameloblastoma has slow growth that takes several years for symptoms to appear, but ameloblastoma in the maxilla has a more aggressive clinical course compared to the mandible. The lack of initial symptoms leading to diagnosis at an advanced disease when the tumour has already extended beyond maxilla. The cancellous structure of the maxillary bone makes it easier for tumors to spread to the nasal cavity, paranasal sinuses, orbitals, parapharyngeal tissue and skull base. This article reports a case of resection of maxillary ameloblastoma.
Case Report : A 63 year old female patient came with complaints of a lump on her right cheek since 2 years back that gradually increased in size. Since 2 months ago, pus and blood have been coming out of the lump. Extra oral examination revealed a well-defined mass with a solid and hard consistency, there were no ulcers or fistulas. Intraorally, a mass measuring 5x5x3cm was found in the region of teeth 12 to 15 which extended to the buccal-palatal area. History of allergies and weight loss was denied. Supporting examinations including panoramic radiography, PA chest radiography, CT-Scan, FNAB, and biopsy resulted in a diagnosis of ameloblastoma. Treatment was carried out by resection of the right maxillary tumor mass under general anesthesia.
Discussion : In this case, the patient's clinical examination showed a hard and large palpable swelling in the right maxilla area which extended from the region of tooth 12 to tooth 15 which caused facial asymmetry and no tooth mobility was found. This hard and painless swelling takes about 2 years before the patient experiences symptoms of pus and blood discharge. The post-maxillectomy defect in this case was covered with an intraoral prosthesis in the form of a post-surgical obturator made of acrylic resin. The obturator functions to hold the surgical packing, and prevent food or dirt contamination in the defect area which can cause infection and slow healing. The use of a prosthesis also helps restore swallowing and speech function to the patient.
Conclusion : In principle, the treatment for ameloblastoma is resection of the involved bone, as in this case the action taken is a maxillectomy. Maxillectomy can result in facial and oral cavity deformities characterised by facial disfigurement and alterations in oral functionality.Therefore, maxillary reconstruction is needed to treat maxillary defects after surgical procedures involving the loss of part or all of the maxilla.

Keywords : maxillectomy, ameloblastoma, maxillary tumor, resection

INTRODUCTION

Ameloblastoma is a benign odontogenic tumor that appears in the mandible and maxilla. This tumor is often found at the age of 30–60 years with a male to female ratio of 1:1. The clinical appearance of ameloblastoma is characterized by a lump that is painless and slow in enlargement. Pain is not a common symptom of ameloblastoma, but can occur due to bleeding in or around the tumor. Other symptoms of ameloblastoma include malocclusion, facial deformity, soft tissue invasion, or loose teeth. About 80% of ameloblastoma cases occur in the mandible, usually in the posterior area of the mandible. Maxillary ameloblastoma usually occurs in the posterior molar region. Unerupted third molars may be associated with ameloblastoma.[1-3]

The clinical progression of maxillary ameloblastoma is more severe compared to that of the mandible. This phenomenon arises as a result of the absence of initial symptoms, leading to the diagnosis being made at a late stage when the tumour has metastasized to the maxilla. The difference in bone structure between the maxilla and the mandible also influences the aggressiveness of the tumor. The bone structure of the mandible is compact, while the maxilla consists of cancellous bone, so that tumors more easily invade and spread to the nasal cavity, paranasal sinuses, orbit, parapharyngeal tissue and skull base. When symptoms begin to appear, facial deformity is often visible, usually unilateral, intraoral ulceration, toothache, headache, nasal obstruction, nasal epistaxis, and visual disturbances.[2]

CASE REPORT

A 63 year old female patient came with complaints of a lump on her upper right cheek. It was felt that the lump had appeared since 2 years ago and was small in size and was getting bigger over time. In April, the patient came to the dental and oral clinic at KRMT Wongsonegoro Hospital, Semarang, because there was pus and blood coming out of the lump, there was no decrease in appetite or weight loss. Then, supporting examinations are carried out, including dental panoramic, CT scan of the head, chest X-ray, FNAB, and biopsy of the lump. Denied history of allergies and weight loss. Biopsy results on the tissue showed that there was ameloblastoma in the right upper jaw, until finally in June 2023 the patient was referred to the Oral Surgery Polyclinic at Dr. Kariadi General Hospital Semarang Center for further treatment.

Extra oral examination (Figure 1) revealed facial asymmetry with a lump in the right maxilla, diffuse borders, the same color as the surrounding tissue, no visible edema in the right maxilla region, and no fistulas or ulcers. Palpation examination revealed a mass in the right maxillary region, firm boundaries with a firm, firm consistency, palpable paresthesia, and no palpable tenderness. Intraoral examination found a lump from the region of tooth 12 extending to tooth 15 with a size of 5 x 3 x 3 cm, with a rubbery consistency in the posterior, clearly defined, the same color as the surrounding tissue, visible buccal-palatal expansion, flat surface and visible bite marks superior to the mass, there were no ulcers or fistulas, no loose teeth were felt, and there was no tenderness.

Figure 1. Extra Oral and Intraoral Clinical Examination Before Surgery

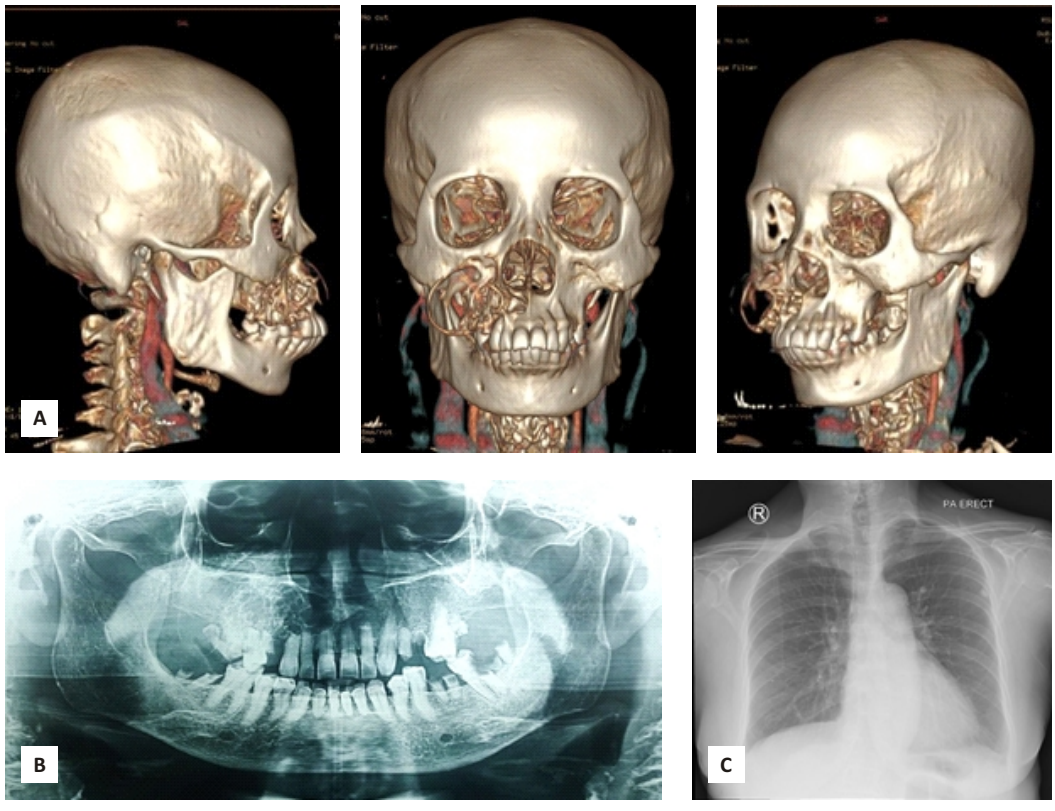

Figure 2. a. Radiographic CT scan of the head to assess the extent of the mass; b. Dental Panoramic Photo; c. Chest X-ray.

Based on the results of supporting examinations, in Figure 2a, the CT scan radiograph of the head shows a lytic lesion on the right maxillary bone – right alveolar process, geographic type 1A, multiloculated forming a soap bubble image, narrow transition zone. Multiple lymphadenopathy in the dextra colli region level 2 and left colli region levels 1,2,5 (largest size 1 x 0.8 cm, at level 5 left), no visible infarction or bleeding. The dental panoramic in Figure 2b shows a solid mass in the right maxilla which extends from the region of tooth 12 to tooth 15. The chest X-ray in Figure 2c shows cardiomegaly (LV), the pulmonary does not show infiltrates or nodules, and there is suspected left pleural effusion. Diagnosis is made using the results of an incisional biopsy, namely ameloblastoma. The lesion has a benign, locally invasive histopathology type.

After evaluating all the examinations that had been carried out, the patient underwent resection of the tumor mass in the right maxilla using a mallet and chisel (Figure 3b), and continued with adaptation of the obturator and application of gentamycin gauze to the post-mass removal defect (Figure 3c, d). The mass was removed and the obturator was placed in the defect (Figure 3e).

Evaluation at 8 days and 3 months after maxillectomy surgery, the patient came in good general condition. Extra oral examination revealed asymmetry and surgical defects. The intraoral condition is healing well, the tissue has closed and there are no signs of infection. Treatment continues by referring the patient to a prosthodontist specialist for creation of a definitive obturator. The patient's preprosthetic care included plaque control and removal of residual roots.

DISCUSSION

Ameloblastoma, also known as a benign tumour or odontogenic epithelial tumour, develops from enamel-forming tissue, which is a type of tissue that does not differentiate during the process of tooth formation.[4] Some frequently encountered characters have slow growth and may take years before symptoms develop. Often patients present with a history of painless jaw swelling, and sometimes without tooth mobility.[5] In this case, the patient's clinical examination showed a hard and large swelling in the right maxilla area which extended from the region of tooth 12 to tooth 15 which caused facial asymmetry and no tooth mobility was found. This hard and painless swelling takes about 2 years before the patient experiences symptoms of pus and blood discharge.

In principle, the treatment for ameloblastoma is resection of the involved bone, as in this case the action taken is a maxillectomy. Maxillectomy is the surgical

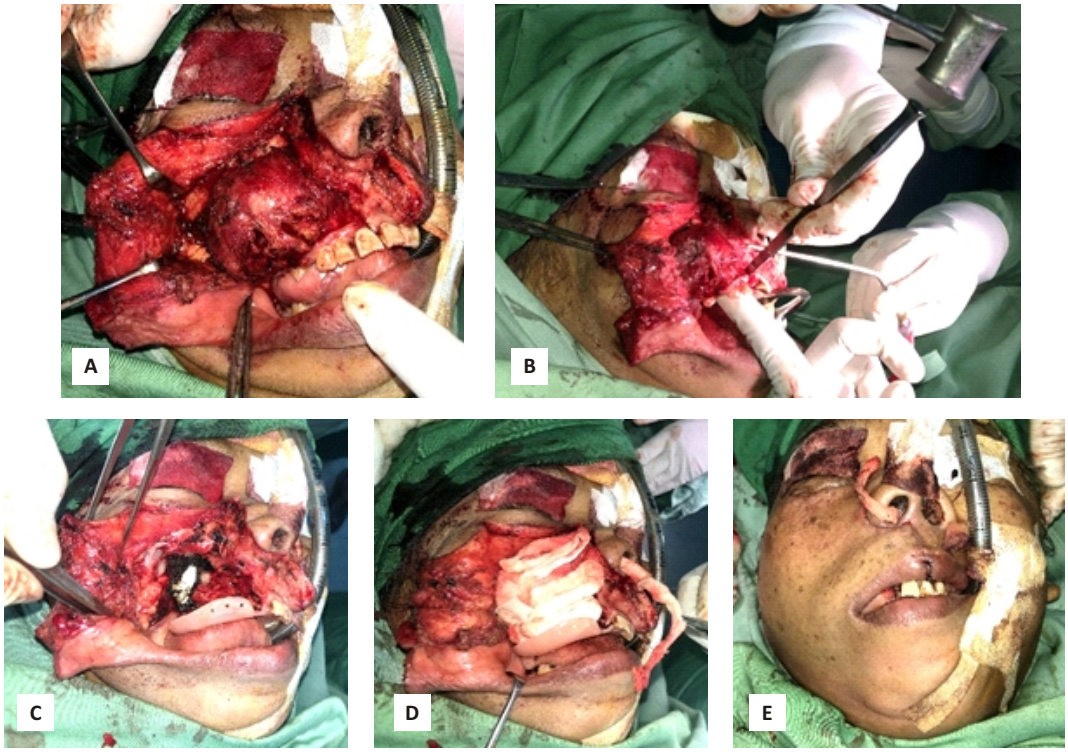

Figure 3. a. Durante OP Clinical Photos: a, b. Dextra maxillectomy; c, d. Adaptation of the surgical obturator to the defect and application of gentamicin gauze to the defect post mass removal, and; e. Post surgery.

Figure 4. Extra oral and intraoral clinical examination 8 days after surgery

Figure 5. Extra oral and intraoral clinical examination 3 months after surgery

removal of the maxilla, often called maxillary resection.[6] Maxillectomy can cause defects in the face and oral cavity in the form of damage and changes in facial shape and oral function. Maxillary reconstruction is rehabilitation treatment for maxillary defects after surgical procedures involving the loss of part or all of the maxilla.[7,8]

Research by Petrovic (2018) Resection maxillary ameloblastoma should achieve negative margin using partial, total or extended maxillectomy depending on the extent of the tumor. Clear margins obtained with adequate resection of the soft tissure surrounding the tumor. Cupping or indentation of alveolar bone need excision of associated periosteum and/or bone. Studies shown that inadequate initial surgical treatment of ameloblastoma leading to high risk of local recurrence with rates of 16 to 19%. However, only 80% of recurrent ameloblastoma are cured with another resection.[9]

Reconstruction of the post-maxillectomy defect in this case used a surgical phase obturator prosthesis. The obturator is made before the maxillectomy operation with an acrylic base and a clamp wire on the remaining teeth. Obturator fixation is carried out by suturing the mucosal tissue to the obturator which has previously been perforated along the side of the prosthesis. The obturator functions to hold the surgical packing, and prevent food or dirt contamination in the defect area which can cause infection and slow healing. The use of a prosthesis also helps restore swallowing and speech function to the patient.[10]

Surgical packing of the defect area uses gauze that has been given gentamicin and is arranged to fill the defect cavity with the end of the gauze coming out of the nostril. The aim of giving gauze is to absorb bleeding, thereby preventing blood-filled dead space which can become a focal infection. The gauze was removed on day 5 after resection under general anesthesia. Soft tissue healing usually occurs around 3–5 days after resection.[10]

Reconstruction of post-maxillectomy defects must be carried out considering that if left unchecked it will result in high morbidity, namely, severe disturbances in function (swallowing, speaking) and cosmetics.[7] The aim of reconstruction of maxillary defects is to maintain the food passage (maintain alimentation), maintain the form of speech (restore speech), maintain the shape of the cheeks and lips (provide lip and cheek support) and maintain the shape of the face (re-establish midface projection).[8]

Post-maxillectomy management includes installing an obturator and administering adequate medication.[8] After maxillectomy, the patient was given systemic medication in the form of a combination injection of amoxicillin 1000mg and clavulanic acid 200mg (1200mg/12 hours), Metronidazole inf 500 mg/100 ml (500mg/8 hours), Ketorolac inj 30mg/ml (30mg/12 hours), ranitidine inj 50mg/2ml (50mg/ 12 hours) for 5 days. The patient was discharged on the 5th day after surgery with outpatient medication in the form of Amoxicillin tab 500mg (500mg/8 hours),

Diclofenac Sodium enteric tab 50mg (50mg/8 hours), and Dexamethasone tab 0.5mg (0.5 mg/8 hours) for 5 days, accompanied by topical treatment using 0.3% Gentamycin ointment (topical/12 hours).

Control 3 months after maxillectomy the patient came in good general condition. Extraoral inspection revealed good soft tissue healing. Intraoral examination shows that primary healing has occurred where the defect has closed completely. There are no signs of inflammation or infection. The next treatment is to make a definitive prosthesis, namely a removable denture. Dentures are needed to restore aesthetic function, speech function, swallowing and mastication in patients so that they can improve the patient's quality of life after maxillectomy.

CONCLUSION

In principle, the treatment for ameloblastoma is resection of the involved bone, as in this case the action taken is a maxillectomy. Maxillectomy can cause defects in the face and oral cavity in the form of damage and changes in the shape of the face and oral function. Therefore, maxillary reconstruction is needed to treat maxillary defects after surgical procedures involving the loss of part or all of the maxilla.

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