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Mandibular Ameloblastoma in a 28-Year-Old Woman

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Abstract: Ameloblastoma is a benign odontogenic tumor originating from enamel-producing epithelial cells, which, despite being benign, can grow aggressively and cause damage to surrounding structures. This case reports a 28-year-old female patient who complained of a lump on the left chin that had developed over the past three years. The lump was hard, painless, and not accompanied by systemic symptoms such as fever or weight loss. Based on clinical and supporting examinations, including MSCT and biopsy, the diagnosis of bilateral mandibular and maxillary ameloblastoma was confirmed. This tumor displayed characteristics of bone destruction and invasion into surrounding tissues, requiring radical treatment. A hemimandibulectomy procedure was chosen as the primary therapy to remove the part of the jaw infected by the tumor, with the aim of reducing the high risk of recurrence. Reconstruction with a mandibular plate was performed to restore chewing function and the patient's facial aesthetic appearance. Long-term monitoring with radiography is required to detect recurrence. Although benign, ameloblastoma can be highly destructive and requires proper treatment to prevent further damage or tumor recurrence

Keywords: Ameloblastoma, Odontogenic Tumor, Mandible, Maxilla, Hemimandibulectomy

PENDAHULUAN

Ameloblastoma is the most common benign odontogenic tumor found in the jaw, although it can occur in various parts of the oral cavity. Despite being classified as a benign tumor, ameloblastoma has the potential to grow aggressively and damage surrounding structures, such as bone and soft tissue. This tumor is often found in young adults, with a peak incidence between the ages of 20 and 40. Although its growth is relatively slow, ameloblastoma can cause significant damage if not treated promptly (Rami, M., Kaur, J., 2019; Azari, S., Dayal, S., Sankar, V., et al., 2018).

This case report discusses a 28-year-old female patient who presented with a chief complaint of a swelling on the left side of her chin, which had been developing over several years. The swelling was not painful and showed no systemic symptoms, but its increasing size prompted the patient to seek further medical attention. Clinical and radiological

examinations strongly indicated the presence of ameloblastoma in the patient's jaw, requiring prompt and aggressive treatment. The standard treatment approach for ameloblastoma generally involves surgical intervention, with the choice of technique depending on the size, location, and degree of tumor invasion (Nugraha, A., Utami, H., Sumardi, 2017; Liu, X., Li, L., Zhang, W., et al., 2020).

This case report aims to provide an in-depth understanding of the presentation of ameloblastoma in young adult patients, including the diagnostic process, surgical approach, and challenges in management and long-term monitoring to minimize the risk of recurrence.

Case Presentation

Mrs. L, a 28-year-old woman, came with a chief complaint of a lump on her left chin that had been there for three years. The lump was initially the size of a marble and slowly grew to the size of a duck egg in the past year. The lump felt hard, was not painful, and was not accompanied by systemic symptoms such as weight loss or fever. In addition to the lump on her left chin, the patient also felt a small lump on her right jaw that was also not painful. There was no history of trauma or malignancy in the family.

The results of the physical examination showed a hard mass on the left side of the mandible and maxilla, which was fixed and not painful. Supporting examinations, including MSCT Brain with contrast and anatomical pathology results, indicated a lesion suspicious of ameloblastoma in the mandible and maxilla bilaterally. A chest X-ray showed no pulmonary metastasis.

Figure 1. Pre-operative clinical photo of patient

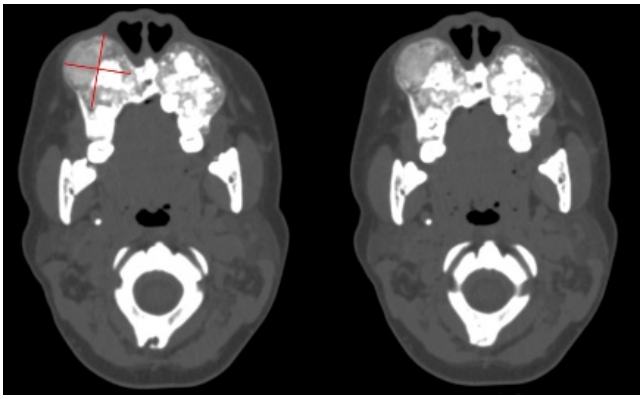

Figure 2. CT Scan radiology results

Figure 3. Intraoperative photo

Figure 4. Installation of the mandibular plate

Figure 5. Post-reconstruction panoramic photo

RESULT AND DISCUSSION

Ameloblastoma is a benign odontogenic tumor that is often found in the jaws, with the potential to grow aggressively and cause significant local damage to surrounding structures. Although often slow growing and asymptomatic, ameloblastoma has the ability to destroy the bone and soft tissues around the jaws, and cause serious facial deformities. This tumor is more common in young adults, with a peak age between 20 and 40 years, and can be found in the lower jaw (mandible) in up to 85% of cases, although it can also occur in the upper jaw (maxilla) (Rami, M., Kaur, J., 2019) (Azari, S., Dayal, S., Sankar, V., et al., 2018). Mrs. L's case reflects the general characteristics of ameloblastoma, which grows slowly but can cause extensive bone expansion. In this patient, the tumor was detected in both jaws, which made the treatment more complex and required a radical approach. The choice to perform radical resection (hemimandibulectomy) compared to marginal resection is based on the invasive nature of the tumor which can cause high recurrence if only enucleation or curettage is performed. This is in line with the literature suggesting radical resection in cases of solid/multicystic ameloblastoma to prevent higher recurrence (Liu, X., Li, L., Zhang, W., et al., 2020)(Wright, J. M., Vered, M., 2020).

The hemimandibulectomy procedure aims to remove the tumor tissue extensively, but this action often causes structural defects in the jaw. Therefore, postoperative reconstruction with a mandibular plate is performed to restore masticatory function and improve the aesthetic appearance of the patient's face. This reconstruction is important to ensure that patients can return to basic life functions such as eating and speaking after radical resection. (Lee, Y. H., Son, Y., et al., 2018)

Although surgery has been performed with a fairly wide margin to reduce the risk of recurrence, long-term monitoring remains very important. Periodic postoperative radiographs are needed to detect possible recurrence or residual tumor growth. Patients should continue to be monitored to ensure that there are no signs of recurrence that can occur, especially in larger tumors or those that have invaded surrounding tissue (Thompson, S. J., Priddy, L., et al., 2019)(Babcock, G., Penn, M., et al., 2020).

In addition to surgery, non-operative management such as radiotherapy can be considered in patients who cannot undergo surgery or as an additional therapy to reduce the risk of recurrence. Although radiotherapy can reduce tumor size and slow its growth, the use of this therapy must be done with caution because of long-term side effects, including fibrosis and potential malignant changes in radiation-exposed tissues (Rosenfeld, R., et al., 2019) (Kannan, S., et al., 2021).

CONCLUSION

Mrs. L's case illustrates the importance of appropriate and aggressive management of ameloblastoma, especially when the tumor is localized to both jaws and shows significant expansion. Radical resection such as hemimandibularectomy, followed by mandibular plate reconstruction, is the appropriate approach to remove the tumor and restore the patient's function and appearance. Although surgical intervention successfully reduces the risk of recurrence, long-term monitoring is essential to detect recurrence or residual tumor growth.

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