MANAGEMENT OF GIANT AMELOBLASTOMA IN AN AFRICAN ENVIRONMENT- REPORT OF 2 CASES

*OBISESAN BOLA A. —BDS, DDPHCRS (Eng), FMCGDP (Nigeria)
*ADEYEMO WASIU LANRE — BDS (Ibadan, Nigeria)
**LADELE BABATUNDE S.- MBBS, DA, FMCGMP (Nigeria)

ABSTRACT

Ameloblastoma of the jaws is a relatively common neoplasm in African population. Although, it is slow growth in characteristics, occasionally the tumour can reach a considerable size (giant) often described in African term as "second head" due to delay in presentation. This delay in presentation is due to a combination of poor socioeconomic background and beliefs of the patients. Treatment of this condition is usually a challenge to the surgeon in a developing country with minimal surgical facilities. Two cases of "Giant ameloblastoma" of the mandible are presented to illustrate the management of this condition in our environment. The result of the surgery was satisfactory. The overall aesthetics, physical, emotional, psychological well being, as well as quality of life of our patients were greatly enhanced.

Key words: Management, Giant Ameloblastoma, African environment.

INTRODUCTION

Ameloblastoma is the most common odontogenic tumour in Africans\textsuperscript{1,2}. Although, it is a slow growing tumour, it is known to be aggressive in nature\textsuperscript{3,4}. Due to its slow growth without necessarily affecting the overall health of the patients, traditional beliefs in our environment and poor socioeconomic status of the patients; presentation of this tumour is sometimes delay in our environment to the point where they are often described as "second head". This "giant" presentation is often a challenge to the surgeon working in an environment where facilities are grossly inadequate. The challenges pose by this presentation can be summarised as anaesthetic, surgical and reconstructive.

We, present two cases of "Giant ameloblastoma" successfully managed within the limited resources available in our environment.

CASE REPORTS

Case 1

A 36 year-old Nigerian male presented with a history of bilateral massive mandibular swelling of 4 years duration. Further questioning revealed that the duration of the lesion was more than 10 years as the patient had wasted a lot of time attending unorthodox clinic where treatment is usually based on traditional religious belief.

At presentation, the patient was neither pale nor jaundiced and he was apparently well fed. Extraoral examination revealed a large multilobulated and fluc-
tuant (in some areas of the tumour) swelling affecting the entire body and ramus of the mandible bilaterally causing massive protrusion (Fig 1). Multiple scarification marks were seen on the left submandibular region. Submandibular and cervical lymph nodes were found clinically normal in size and texture. Intraorally, oral hygiene was poor, and all the teeth were either floating or drifted. The buccal and lingual plates of the mandible were grossly expanded. A provisional clinical diagnosis of ameloblastoma (Giant) was made.

Aspiration biopsy yielded a straw coloured fluid and an incision biopsy confirmed the lesion to be ameloblastoma (follicular type). Post-anterior X-ray view of the jaws showed a large multicystic lesion extending from affecting the whole of the mandible sparing the condyles. Other investigations included clinical photographs, chest X-rays and a full haematological survey.

Total mandibulectomy with immediate reconstruction was planned and an acrylic implant was constructed in our laboratory for the purpose of reconstruction (Fig 2).

Tracheostomy preceded proper surgery. The surgery commenced with the splitting of the lower lip and this was connected to a left extended submandibular incision. Intraoral incision was made bucco-labial and extended from the left to the right coronoid, and this was connected with the extraoral incision to fully expose the tumour. The tumour was later free from condyle to condyle preserving the articular discs, with the combination of sharp and blunt dissection; and was delivered in one piece. The custom-made acrylic im-

plant was then inserted to fit into the glenoid fossa after minimal adjustment, as well as in between muscles, in the position previously occupied by the mandible. This was secured in place with 3-0 chromic catgut to the surrounding musculatures, most especially anteriorly, where the extrinsic muscles of the tongue were secured to the implant to prevent the tongue falling back. The surgical wound was closed in layers with corrugated rubber drain insertion. Postoperative feeding was instituted through a nasogastric tube.

Immediate and late postoperative period was uneventful and the patient was discharged home after 12 days of hospitalization. The appearance of the patient 6 months postoperatively was satisfactory with good control of the lips (Fig 3).
Fig 4: A 24-year old male with 'giant ameloblastoma' of the mandible of 9 years duration.

Case 2

A 24-year old male Nigerian presented with a massive swelling of the lower jaw of 9-years duration, which has since progressively increased in size. The patient disclosed that he had attended several unorthodox traditional clinics with no improvement. He also reported that he had once refused surgery about 5 years ago due to financial reason.

Clinical examination revealed an ill-looking patient with obvious weight loss. Extraorally, a large swelling affecting the mandible extending from left ramus to right body was revealed, with multiple scarification marks on the submental area. A large, multiply ulcerated soft tissue, stretching both the upper and lower lip protruded from the mouth (Fig 4).

A proper intraoral examination could not be performed due to limited mouth opening (12mm). The entire mandibular dentition was submerged in the lesion and the tongue was raised to the palate. Review of the systems revealed no abnormalities.

Posterior-anterior X-ray view of the jaws showed multilocular radiolucency extending from left subcondylar region to right angle of the mandible. Incision biopsy of the lesion confirmed follicular type of ameloblastoma. Other investigations carried out included FBC, WBC (total and differentials) and electrolyte and urea as well as chest X-ray, all of which were found to be normal.

Total mandibulectomy under general anaesthesia instituted and maintained through a tracheostomy was done. An extended left submandibular incision starting from preauricular region and terminating in a midline split of the lower lip was made. This was connected to the intraoral incisions around the tumour. With the combination of sharp and blunt dissection, the tumour was free from condyle to condyle preserving the articular discs, and was delivered in one piece. The compromised labial, buccal and floor of the mouth soft tissue, as well as extrinsic tongue musculature were also excised. A custom-made acrylic implant was used for reconstruction of the mandible.

The surgical wound was closed in layers with corrugated rubber drain insertion. Postoperative feeding was instituted through a nasogastric tube.

Immediate and late postoperative period was uneventful and the patient was discharged home after 14 days of hospitalization. The appearance of the patient 3 months postoperatively was satisfactory with good control of the lips (Fig 5).

DISCUSSION

This unique presentation of the tumour in our patients can be attributed to the fact that, majority of illiterate Nigerians who constitute the bulk of our population; regard a considerable number of diseases as 'non-hospital diseases' and, therefore prefer non-orthodox means approach. In addition, the cost of treatment appears to be too exorbitant for most of these patients who are from poor socioeconomic background. Presentation at the hospital is always a last option after they must have tried other alternatives to
no avail. The other unique presentation seen in our patients was the 'tell tale' scarification marks from the incisions by the traditional herbalists to drain 'bad blood' from the tumour.

Several attempts to induce general anaesthesia through nasotracheal intubation failed in our patients due to the large tumours, hence we resorted to tracheostomy. The complications of tracheostomy are well documented, and mortality of 1.6-16% has been reported\(^6\). However, tracheostomy tube was removed by the 7th day following surgery without any complication in our patients.

The treatment of choice for Ameloblastoma is resection of the bone and affected soft tissue, otherwise the tumour will recur\(^3,7\). The extensive involvement of the soft tissues of the floor of the mouth and cheek necessitated the removal of these tissues along with the tumour in our patients. The muscles of the floor of the mouth and tongue are inserted into the mandible, which provides an essential skeletal platform for chewing, swallowing, and speech and also prevents collapse of the upper airway by anterior fixation of the hyoid bone and the hypopharynx\(^3\). Hence, the need for immediate replacement of this platform after surgical excision.

Immediate reconstruction after ablative surgery of the jaws is necessary so as to restore function, aesthetics, emotional and psychological well being, and particularly in the mandible to prevent blockage of the airway as a result of backward displacement of the tongue\(^8,9\). Nowadays, the golden standard for reconstruction of the mandible after ablative surgery is microvascular free flap\(^10\). Other reconstructive options are non-vascularised bone grafts and allelografts\(^11-13\). Facilities are not presently available in most clinics in developing countries for free flap surgeries, while reconstruction of large defects presented in this report with nonvascularised bone grafts is prone to failure\(^13\). Other allelografts like titanium and vitallium plates are very expensive and are not readily available in our environment.

The need to provide an acceptable mandibular implant within available local resources made us to use the custom-made heat cured acrylic implant, the use and fabrication of which was earlier reported\(^8,14\). The merits include ease of fabrication and adaptation, availability of implant materials and relatively acceptable aesthetics. Insufficient tissue support in the mental region (Fig 2 and 5), inadequate base for denture support and inability to masticate effectively are some of the drawbacks of this implant. However, our patients are satisfied with the result of their treatment and they are adjusting fast to their new appearance, with the hope of a secondary mandibular reconstruction in the nearest future.

CONCLUSION

Two unusual cases of giant ameloblastoma have been presented with the associated surgical, anaesthetic and reconstructive challenges. The management of these cases within the available resources in our environment was also highlighted. The result of the surgery was satisfactory. The overall aesthetics, physical, emotional, psychological well being, as well as quality of life of our patients were greatly enhanced.

REFERENCES