



13th  
**ACOMS** TAIPEI 2018  
Asian Congress on Oral & Maxillofacial Surgery



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**ACOMS**  
TAIPEI 2018

Asian Congress on Oral & Maxillofacial Surgery

November 8-11, 2018  
Taipei Marriott Hotel





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## Welcome Message

I am pleased to inform you that the Asian Association of Oral and Maxillofacial Surgeons (Asian AOMS) will join hands with the Taiwanese Association of Oral and Maxillofacial Surgeons (TAOMS) to host the 13th Asian Conference on Oral and Maxillofacial Surgery in Taipei from 8 November to 11 November 2018 at the Taipei Marriott Hotel. In addition to the main conference, a mini ICOMS is being held at the same venue. The goal of the mini ICOMS is to give international exhibitors an opportunity to showcase their products and services.

The Scientific Committee is going to develop a world-class program showcasing the latest research and findings in Oral and Maxillofacial Surgery. About 1000 delegates from member nations across Asia are expected. We would like to invite you to take part as a sponsor or as an exhibitor in this event. Considering that this is an international event, your principal supplier might find it advantageous to support your participation. Since demand is expected to be high, we strongly suggest that you promptly review the sponsorship and exhibition prospectus in order to secure your preferred options. An early application will maximize your investment through our extensive marketing campaign both online and in print media. Should you have further inquiries please do not hesitate to get in touch with us.

We are looking forward to welcoming you to Taiwan.

Very truly yours,

President



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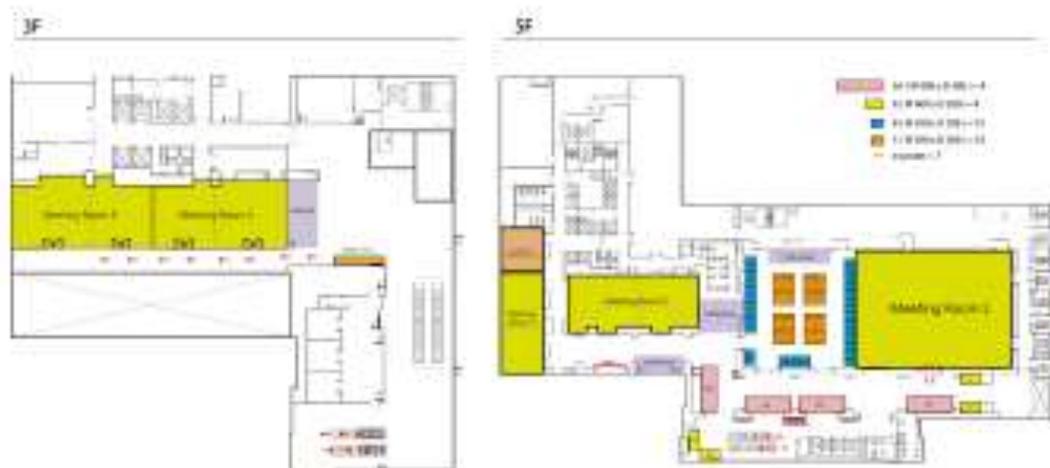




## Congress Information

<b>Congress Name</b>	13th Asian Congress on Oral & Maxillofacial Surgery	
<b>Congress Date</b>	November 8-11, 2018	
<b>Congress Venue</b>	Taipei Marriott Hotel, Taiwan	
<b>Exhibition Area</b>	Taipei Marriott Hotel 5F	
<b>Estimated Attendees</b>	Approximately 1000	
<b>Hosting Organization</b>	Taiwanese Association of Oral and Maxillofacial Surgeons(TAOMS)	
<b>Organization Committee</b>	Congress President	Shou-Yen Kao
	Secretary General	Chung-Ji Liu
	Deputy Secretary General	His-Feng Tu Chih-Yuan Fang Wei-Fan Chiang Yu-Wei Chu
	Scientific Committee	Shih-Jung Cheng

### 2018 ACOMS



**2018/11/9 (D1) Fri. – Winter**

**E-Poster  
Cleft & Craniofacial Anomalies/ Implant/ONJ**

**Moderator: Jen-Chan CHENG, Motiur Rahman MOLLA**

0820-0825	EP101	Byoung-Moo SEO	Fisher Technique for Cleft Lip Repair
0825-0830	EP102	Yoossy (Yoanita) ARIESTIANA	Secondary Deformities Revision of Bilateral Cleft Lip Using Abbe Flap: A Case Report
0830-0835	EP103	Norifumi MORITANI	Localization of RUNX2 and CCN2 Proteins in the Supernumerary Tooth of a Cleidocranial Patient
0835-0840	EP104	Yoshikazu KOBAYASHI	Evaluation of Velopharyngeal Closure Using 320-row Area Detector Computed Tomography: A Pilot Study of Healthy Volunteers and Adult Postoperative Cleft Palate Patients
0840-0845	EP105	Choong-Nam KIM	Circummandibular Wiring with Prefabricated Splint for Mandible Fracture under 2 Years: A Case Report
0845-0850	EP106	Chia-Jui LIU	Surgical Treatment of Fracture of the Mandible with Cervical Spine Injury Fixed with Halo Splint
0850-0855	EP107	Song-Jay CHOI	Reconstruction of Both TMJ Using Alloplastic Total Temporomandibular Joint Replacement after Trauma: A Case Report
0855-0900	EP108	Yeon-Woo JEONG	Orbital Wall Reconstruction Using Orbital Matrix® and Titanium Mesh in Severe Orbital Wall & Frontal Bone Fracture Patients: Case Reports
0900-0905	EP109	Ken FURUDATE	Vertical Ramus Fracture of the Mandible Caused by Low Energy-Trauma

**8/11/10 (D2) Sat. – Summer**

**Oral Presentation  
Reconstruction II / ONJ/OSA I**

**Moderator: Sun-Jong,KIM, Hong-Ju PARK**

0830-0839	OP081	Supatcha LAMLERTW ATHEE	High Dose Effect of Submucosal Dexamethasone Injection on Postoperative Sequelae after Lower Third Molar Surgery ; Double Blind, Randomized Control Trial
0840-0849	OP082	Seong Yong MOON	VR Simulator for Local Anesthesia Injection Techniques
0850-0859	OP083	SunJong KIM	Severely Destructed Mandible Due to MRONJ: 1 Year Follow-Up Study
0900-0909	OP084	Ya Yu WANG	The Relationship of Hyperbaric Oxygen and Recurrence of Oral Cancers - A Retrospective Clinical Study
0910-0919	OP085	Allen HUANG	Maxillomandibular Advancement Effectively Reverses Concentric Velum and Lateral Pharyngeal Wall Collapse as Evaluated with DISE
0920-0929	OP086	Fajar Eka SAPUTRA	Non-Vascularized Fibular Autograft as Reconstruction after Resection of Mandibular Ameloblastoma: A Report of Two Cases
0930-0939	OP087	Pei-Jung CHEN	Chondroblastic Osteosarcoma of Mandible - A Case Report
0940-0949	OP088	Yu-Hsin TAN	Mandibular Ameloblastoma Treated by Bone Resection and Free Fibula Bone Flap Reconstruction with 3D Virtual Planning – A Case Report
1010-1030	Coffee Break		

# NON-VASCULARIZED FIBULAR AUTOGRAFT AS RECONSTRUCTION AFTER RESECTION OF MANDIBULAR AMELOBLASTOMA: A REPORT OF TWO CASES

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## Abstract

### Introduction

Ameloblastoma is a locally aggressive tumor which is known as the most common benign odontogenic tumor. Because of its aggressive behavior, surgical resection and reconstruction of the jaw has been the principle treatment of ameloblastoma over the last few years. Reconstruction of the mandible remains a challenge for surgeons, especially in the developing country. In addition, restoring the previous function should be the main goal of reconstruction.

### Objective

The aim of this study was to report the surgical management of non-vascularized fibular autograft in two mandibular reconstruction

### Case Report

Two patient were diagnosed with ameloblastoma of the mandible came to the Department of Oral and Maxillofacial Surgery, Persahabatan Hospital, Jakarta, Indonesia. Here we report, 41-years-old male, with tumor on the right angle through the body of mandible was surgically treated with segmental resection. Another case, 48-years-old female, which tumor is in the parasymphiseal area with an intact inferior border of the mandible, an en-bloc resection was performed to this patient. On both cases, immediate reconstruction using non-vascularized fibular autograft was accomplished in collaboration with Orthopaedic Surgery Department. The graft resorption, mandibular continuity, orofacial function, and facial aesthetic of the patients were then observed after several months post operation.

### Conclusion

Reconstruction using non-vascularized fibular autograft offered benefits in restoring the anatomy, function and aesthetic of the mandibular minor defect.

**Keywords:** *Ameloblastoma, reconstruction of the mandible, non-vascularized fibular graft*

## Introduction

Ameloblastoma is a benign, slow-growing odontogenic tumour which accounts for 1% of all jaw tumours and 11% of all odontogenic tumour. Ameloblastoma are characterized as a locally aggressive tumour due to its local invasiveness and persistent tumour growth. As the chance of recurrence is high, surgical resection becomes the main principle treatment of ameloblastoma and followed by a reconstruction of the jaw over the last few years.<sup>1,2</sup>

Reconstruction of the mandible remains a challenge for many surgeons, because the treatment should aim to maintain anatomical facial contours, aesthetics, and must provide significant functional restoration (speech, swallowing, mastication, and oral competence), and also correct relation of the jaw.<sup>3,4</sup> Segmental resection of the mandible is one of the variety of mandible surgical resection, which can lead to cause problems that mentioned above if the defect are not reconstructed well. In order to increase quality of life, the mandible reconstruction is therefore mandatory.<sup>5</sup>

The mandibular segmental defects can be restored with reconstruction plate only, non-vascularized bone graft and vascularized bone grafts.<sup>3</sup> Currently, vascularized grafts are the ideal technique for mandible reconstruction, it is because blood supply of the graft and soft tissue support. The Vascularized bone graft, however, have limitations and do not guarantee optimal results; the surgical procedures are time-consuming, related to donor site morbidity, high cost and the need of two surgical expertise.<sup>2,3,5</sup> On the other side, using reconstruction plate alone without bone and soft tissue support will fail to repair the mandible in terms of restoring function and aesthetic aspect.<sup>6</sup> The non-vascularized bone graft may be preferable in certain cases; such as minor defect, benign tumour and preserved continuity of the mandible (en bloc resection).<sup>3</sup>

In developing countries, more over, the successful of the ameloblastoma treatment and reconstruction is not define only by the patient's clinical outcome but also by the cost-effectiveness of that procedure.<sup>4</sup> Nevertheless, restoring the previous function should be the main goal of reconstruction. It becomes a challenge for surgeons in this country to determine the most suitable reconstruction method in

limited resources. The aim of this study was to report the surgical management of non-vascularized fibular autograft in two mandibular reconstruction.

## **Case Reports**

### *Case 1*

The patient, 41-years-old male, was referred to Oral and Maxillofacial Surgery Department, Persahabatan General Hospital, because of a painless swelling located in the right lower jaw since 7 months before admission. Extraoral examination revealed a slightly asymmetrical on the right cheek, a well defined margin mass with smooth surface and the same color as surrounding. The consistency of the swelling was vary from hard to cystic, and regional lymph nodes enlargement was not apparent. Intraorally, painless swelling on the right side of the mandible extending from the ascending ramus to the right lower second premolar cover by normal mucosa was observed. The mass was sessile and cystic in consistency, and the right lower third molar was impacted. The orthopantomograms and CT scan show an unilocular osteolytic lesion extending from the ascending ramus to the right lower second premolar with well-defined margin and was associated with an impacted third molar. There are appearance of an a root resorption of the two right lower molars, and expanding growth of the mandible cortex on bucolingual direction with lingual cortex was perforated.

Incisional biopsy was performed and the reports revealed an ameloblastoma. The patient was scheduled for surgery, performing segmental resection with 1.5 cm safety margin under general anesthesia. Reconstruction of the defect is performed using non-vascularized fibular autograft in collaboration with an Orthopaedic Surgeons. The reconstruction plate was prebending before the operation using 3D model of stereolithography as a guidance. The occlusion was maintained by maxillomandibular fixation using IMF screw. The mandible defect after resection was 7 cm on length. Subsequently, the fibular graft was screwed on the 2.4 mm right angle reconstruction plate and covered by titanium mesh and filled with particulated bone graft taken from remained fibular bone.

Post operative period was uneventful and patient was discharged after 3 days. Several months of follow-up is scheduled for monitoring and evaluation patient clinical conditions: healing of the wound, tumour recurrence, resorption of the graft, orofacial function (mastication, swallowing, breathing, and speech), and facial aesthetic. Follow

up at nine months give the good result for all the evaluation criteria, and patient is instructed to continuing the periodic monitoring up to two years post operation.

## Case 2

Another patient, 48-years-old female, presented with a history of painless anterior mandible swelling of six months duration which was increasing progressively in size. Extraoral examination revealed a swelling of the anterior mandible, which was hard in consistency. The skin overlying the mass was normal in color and texture. There was no enlarged lymph node over the neck region. Intraorally, painless swelling on the anterior region of the mandible extending from right lower first premolar to the left lower first premolar area. The covering mucosa was normal in texture and color. There was a 4x3x2 cm mass, with cystic to hard in consistency. In sequence, the right lower first premolar to the left lower premolar was mobile, poorly oral hygiene in those area. The CT scan of the jaw suggestive a benign lesion with unilocular appearance, extending form the right lower first premolar to the left lower first premolar. The lesion was expanding labial cortex causing erosion of its cortex, while the lingual cortex and inferior border of the mandible remain intact. There are also appearance of root resorption of the anterior tooth.

Histopathology result confirmed that lesion was an ameloblastoma. The patient was educated for enbloc surgical resection and planned for reconstruction using non-vascularized fibular autograft. The measured defect was nine centimeter in length, but the preserving of inferior border of the mandible made mandibular continuity remain intact. The tumor resection was done simultaneously along with preparing of the fibular graft by the orthopaedic surgery team. After that, the fibular graft was placed into the recipient site and fixated to the surrounding bone using six lag screws. Then, the graft was covered by titanium mesh and filled with particulated bone graft taken from remained fibular bone.

Patient scheduled for periodic follow-up to evaluating the wound, possibility of recurrence, resorption grade of the graft, orofacial function and facial aesthetic. At the first follow-up one month after surgery, there was an intraoral wound dehiscence followed by pus production. Then, antibiotics and *aloevera-hyaluronic acid* combination oral rinse were given to the patient. After committed one month therapy, the intraoral wound do not show significant improvement. Radiographic examination was taken and compared to the former post operative radiograph, there was a slight

bone graft resorption in the recipient site. Then, patient was planned for another surgery to performed debridement on the recipient site, removing the titanium mesh and reclosing the wound. After the second surgery, the patient feel more comfortable and the wound was healed well. Followed up at six months was uneventful, and patient instructed to continuing periodic follow up.

## **Discussion**

The Mandibular Ameloblastoma is an odontogenic slow-growing tumor which can result in expansion and perforation of cortical bone and also invasion of the adjacent structure. Radical treatment is the principle treatment in many centre especially if expertise with reconstruction is available, because the high recurrence rate of conservative treatment.<sup>1,2</sup> Furthermore, radical treatment including partial, segmental, or enbloc resection with an adequate surgical margins of 1 – 1.5 cm have been proven to have low recurrence rates (ranging from 0% to 10%).<sup>7</sup> This treatment method is considered much more aggressive, carrying with it a new problem: disruption of orofacial function and aesthetic because of mandibular defect. Hence, adequate reconstruction of the mandible becomes a subsequent indispensable treatment.<sup>2,8</sup>

Nowadays, the reconstruction of mandibular segmental defect with non-vascularized autografts is used widely following resection of the tumor.<sup>4</sup> However, patients undergoing radiotherapy for malignant tumors is not recommended to the use of non-vascularized grafts because of lower success rate.<sup>8</sup> There are several key factors which determine a successful of non-vascularized bone graft incorporation, it consist of: the biomechanical factors, size and location of the defect.<sup>3,8</sup>

The rigid fixation of the graft to the recipient site is one of the biomechanical aspects that should considered before surgery.<sup>5,8,10</sup> The rigid fixation can give an adequate fixation without any movement, which important in bone healing process. The fixation using miniplate is not recommended because it allows micromechanical movement during functional activities.<sup>11</sup> In this cases, we use two different type of rigid fixation: reconstruction plate and lag screw. The lag screw was chosen in case of mandibular continuity remained intact. Another biomechanical aspect are the presence of coverage sufficient soft tissue and an absence of infection at the site.<sup>5,8,10</sup> If these conditions occur can interfere bone graft incorporation. In the wound dehiscence case, we prompt the repaired surgery to prevent total failure of the graft.

The graft size and its recipient location is a critical factor that play pivotal role for the success of the treatment. The smaller non-vascularized autografts was believed have a better result as compared to larger ones. The recommended use of these grafts was for defects of up to 6 cm.<sup>4</sup> Pogrel et al, in their study have reported a 75% loss rate was observed in grafts of  $\geq 12$  cm, and recommend the use of vascularized bone graft for mandibular defect over 9 cm in length.<sup>10,11</sup> In another study, however, there are suggestions for the use of non-vascularized bone grafts in large defects with extreme caution.<sup>12</sup> In this study, the mandibular defect was 7 to 9 cm in length, overall these graft size still acceptable for a possibility of the bony union.

Concerning the location of the mandibular defect, in the literatures mentioned that the lateral mandibular defects give some similar result to the incorporation of vascularized bone grafts, and showed lower rates of complications.<sup>4,5,8</sup> On the other hand, the central defects showed higher frequency of complications and low success rate. The loss of muscles insertion of tongue and mouth floor as a consequence of the mandibular symphyseal extending across the midline defect, along with torsional forces in the mandible can cause the exposure of the plate, infection, and graft loss.<sup>5,13</sup> This can be the reason why wound dehiscence and infection happened in the central defect of the present study. In addition, we presume that the use of lag screw were not able to provide adequate fixation in this multidirectional forces region of the mandible, resulting all of the complications.

Regarding the donor area, most authors have selected the iliac crest graft as a material of non-vascularized autogenous bone graft. The good quality of bone tissue with the sufficient availability of cortical and medullary bone, and the similar contour to the mandible might be the basis of this author preference.<sup>4,8,14,15</sup> On the other side, fibular grafts also have many advantages and can be alternative choice of the mandible reconstruction graft at the present. In the literature, it was showed that fibula has been successfully used as non-vascularized graft.<sup>6</sup> Because, fibular bone are a long and solid tubular bone, and it shaped is very versatile to support a multipurpose reconstruction through corticotomies.<sup>3,6</sup>

Moura et al,<sup>3</sup> reported that generally wound dehiscence and infection can occur concurrently and are initiated by tension soft tissues closure that makes graft interface not fully covered. Moreover, the presence of saliva, poor oral hygiene, dead space and an intraoral access also can lead to those complications. Therefore, to resolve the infection, debridement and treatment with antibiotics are required, since it will not allow

bone graft incorporation to take place.<sup>11,13</sup> Eventhough there was presence of complications in this study, it still could be treated and thus did not represent of treatment failure. Nevertheless, long term follow-up must be accomplished to assure the successful of treatment.

In spite of consensus on the maximum size of a non-vascularized bone graft was not reached, these grafts can be good alternative for the reconstruction of mandibular segmental defects.<sup>3</sup> Particularly, where conditions impede the vascularized autograft (e.g. high cost of treatment, patient's medical condition, non-availability of armamentarium and expertise). Further randomized controlled trials are necessary to create protocols for indication using this technique. In conclusion, reconstruction using non-vascularized fibular autograft offered many benefits in restoring orofacial function and facial aesthetic, and it still relevant in the reconstruction of mandibular minor defect, especially in developing country.

### **Acknowledgement**

Orthopaedic Surgery Department, Persahabatan General Hospital, Jakarta, Indonesia.

## References

1. Laborde A, Nicot R, Wojcik T, Ferri J, Raoul G. Ameloblastoma of the jaws: Managements and recurrence rate. *European annals of Otorhinolaryngology, Head and Neck Disease* (2016). Elsevier Masson: 2016
2. Ooi A, Feng J, Tan HK, Ong YS. Primary treatment of mandibular ameloblastoma with segmental resection and free fibula reconstruction: Achieving satisfactory outcomes with low implantprosthetic rehabilitation uptake *Journal of Plastic, Reconstructive & Aesthetic Surgery* (2014) 67, 498–505
3. Moura LB, Carvalho A, Xavier CB, Post LK, Torriani MA, Santagata M, Chagas OL. Autogenous non-vascularized bone graft in segmental mandibular reconstruction: a systematic review. *Int. J. Oral Maxillofac. Surg.* 2016; 45: 1388–1394
4. Foster RD, Anthony JP, Sharma A, Pogrel MA. Vascularized bone flaps versus nonvascularized bone grafts for mandibular reconstruction: an outcome analysis of primary bony union and endosseous implant success. *Head Neck* 1999;21:66–71
5. Van Germet JT, Van Es RJ, Van Cann EM, Koole R. Nonvascularized bone grafts for segmental reconstruction of the mandible—a reappraisal. *J Oral Maxillofac Surg* 2009;67:1446–52
6. Akbay E, Aydogan F. Reconstruction of isolated mandibular bone defects with nonvascularized corticocancellous bone autograft and graft viability. *Auris Nasus Larynx* 2014;41:56–62
7. Muller H, Sloopweg PJ. The ameloblastoma, the controversial approach to therapy. *J Maxillofac Surg* 1985;13:79–84
8. Maurer P, Eckert AW, Kriwalsky MS, Schubert J. Scope and limitations of methods of mandibular reconstruction: a long-term follow-up. *Br J Oral Maxillofac Surg* 2010;48:100–4
9. Handschel J, Hassanyar H, Depprich RA, Ommerborn MA, Sproll KC, Hofer M, et al. Nonvascularized iliac bone grafts for mandibular reconstruction—requirements and limitations. *In Vivo* 2011;25:795–800
10. Pogrel MA, Podlesh S, Anthony JP, Alexander J. A comparison of vascularized and nonvascularized bone grafts for reconstruction of mandibular continuity defects. *J Oral Maxillofac Surg* 1997;55:1200–6
11. Ndukwe KC, Aregbesola SB, Ikem IC, Ugboko VI, Adebisi KE, Fatusi OA, et al. Reconstruction of mandibular defects using nonvascularized autogenous bone graft in Nigerians. *Niger J Surg* 2014;20:87–91
12. Mooren RE, Merckx MA, Kessler PA, Jansen JA, Stoeltinga PJ. Reconstruction of mandible using preshaped 2.3 mm titanium plates, autogenous cortical bone plates, particulate cancellous bone, and platelet-rich plasma: a retrospective analysis of 20 patients. *J Oral Maxillofac Surg* 2010;68:2459–67
13. Gadre PK, Ramanojam S, Patankar A, Gadre KS. Nonvascularized bone grafting for mandibular reconstruction: myth or reality? *J.Craniofac Surg* 2011;22:1727–35
14. Rana M, Warraich R, Kokemuller H, Lemound J, Essig H, Tavassol F, et al. Reconstruction of mandibular defects—clinical retrospective research over a 10-year period. *Head Neck Oncol* 2011;3:23
15. Dowthwaite SA, Theurer J, Belzile M, FungK, Franklin J, Nichols A, et al. Comparison of fibular and scapular osseous free flaps for oromandibular

reconstruction: a patient-centered approach to flap selection. JAMA  
Otolaryngol Head Neck Surg 2013;139:285–92

## Annexes

### Case 1



Figure 1. Frontal pre operative picture showing slightly facial asymmetry



Figure 2. Intraoral pre operative



Figure 3. Orthopantomogram pre operative



Figure 4. 3D CT Scan pre operative



Figure 5a. coronal section of 2d CT Scan



Figure 5b. axial section of 2d CT Scan

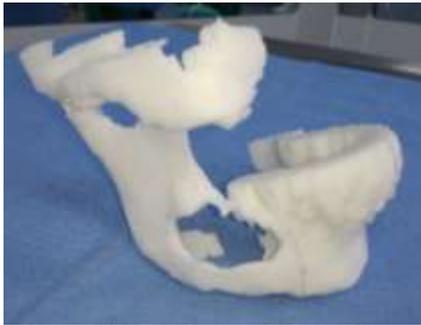


Figure 6 a and b. Stereolithography model



Figure 7a. non-vascularized fibular graft and 2.4 mm reconstruction plate inserted to the defect



Figure 7b. titanium mesh filled with particulated fibular bone graft



Figure 8. resected tumor mass



Figure 9a. Extraoral, post operative day 1



Figure 9b. Intraoral, post operative day 1



Figure 10a. Extraoral, Follow up after 3 months



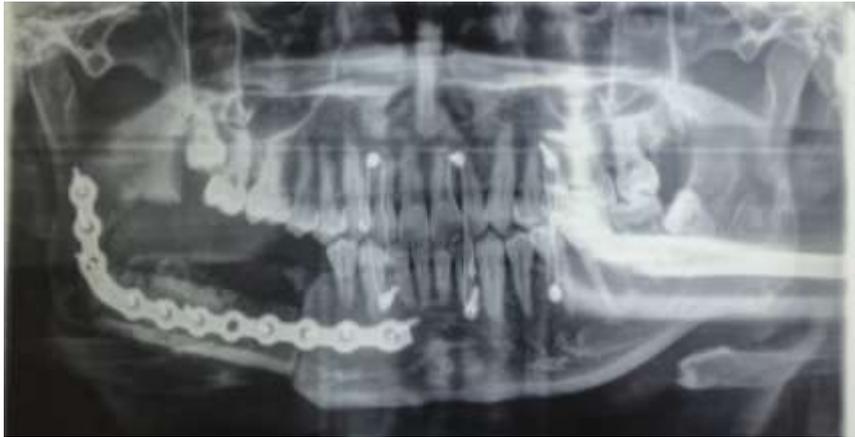
Figure 10b. Intraoral, Follow up after 3 months



Figure 11a. Extraoral, Follow up after 9 months



Figure 11b. Intraoral, Follow up after 9 months



*Figure 12a. Orthopantomogram post operative*



*Figure 12b. Orthopantomogram, follow up after 3 months*



*Figure 12c. Orthopantomogram, follow up after 9 months*

## CASE 2



Figure 13a. Frontal view pre operative



Figure 13b. Lateral view pre operative



Figure 13c. Intraoral view pre operative

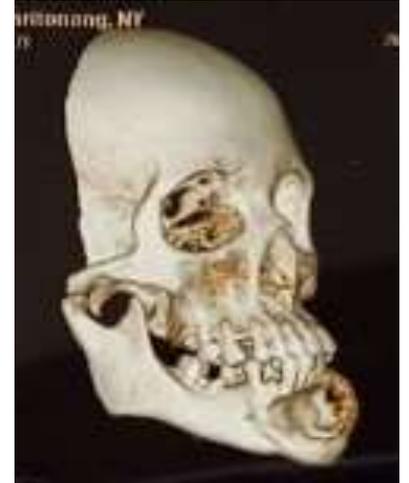
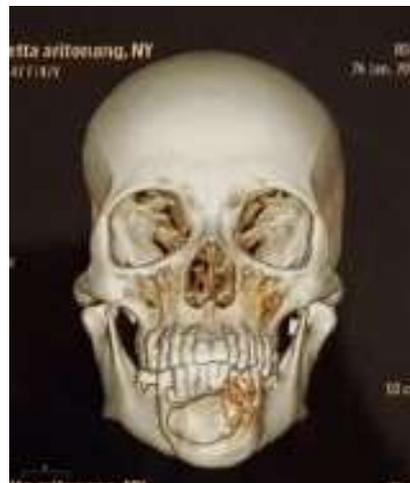
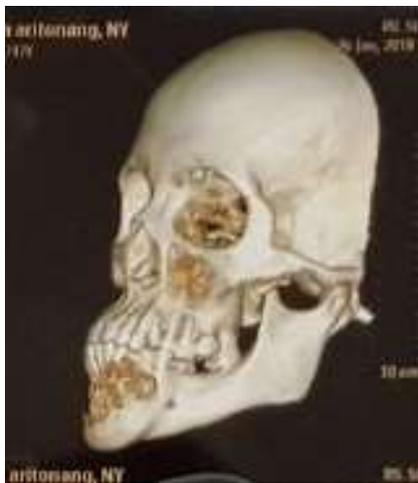


Figure 14 a-c. 3D CT scan



Figure 15a-b. 2d CT Scan



Figure 16a. Exposing the tumor mass



Figure 16b. After inserting fibular graft and fixation using lag screw



Figure 17a. Extraoral, post operative 1 week



Figure 17b. Intraoral, post operative 1 week



Figure 18a. Extraoral, Follow up after 3 months



Figure 18b. Intraoral, Follow up after 3 months



Figure 19a. Extraoral, Follow up after 6 months



Figure 19b. Intraoral, Follow up after 6 months



Figure 20a. Orthopantomogram post operative



Figure 20b. Orthopantomogram, Follow up after 3 months



*Figure 20c. Orthopantomogram, Follow up after 6 months*