

# Reconstruction of Maxillary Defect with Vascularized Latissimus Dorsi Flap in Treatment Of Embryonal Rhabdomyosarcoma : A Case Report

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## Introduction

Embryonal Rhabdomyosarcoma (ERMS) is a malignant tumor of skeletal muscle origin, which the most common primary site is the head and neck region. 1 Embryonal Rhabdomyosarcoma subtypes was among the most commonly encountered subtype of the cases in children. 2 Radical surgery with extensive local ablation and resection of the main tumor along with some surrounding normal tissue to achieve a negative margin was recommended. Significant tissue defects may result from resection of Embryonal Rhabdomyosarcoma. 3

## Objective

To present a case report of Maxillary Defect Reconstruction with Vascularized Latissimus Dorsi Flap in Treatment Of Embryonal Rhabdomyosarcoma

## Case Report

A 13 y.o girl was referred to the Oral and Maxillofacial Surgery Department due to the lump at right upper jaw region. The lump was growing rapidly and was noticed approximately 1 year ago. 6 months ago, the patient had been treated with en bloc excision at another private hospital with histopathologic findings was embryonal rhabdomyosarcoma. Now, the lump reappeared on the same region and kept growing rapidly.

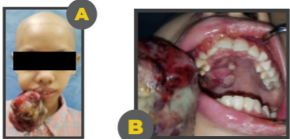


Figure 1: (a) Clinical feature of the lesion (b) intra-oral growth on right maxilla.

Clinical examinations showed facial asymmetry with lump extended to extra oral with size of 10 x 10 x 5 cm, soft in consistency, tenderness, clear demarcation, no ulceration, and paresthesia (figure 1). No cardiomegaly or pulmonary metastasis in thorax x-ray (figure 2). CT scan showed soft tissue enlargement on the right maxillary region accompanied by dentoalveolar and muscular destruction of the right maxilla (figure 3)

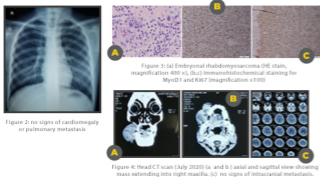


Figure 2: no signs of cardiomegaly or pulmonary metastasis

Figure 3: (a) Embryonal rhabdomyosarcoma (HE stain, magnification 400 x), (b,c) immunohistochemical staining for MyoD1 and Ki67 (magnification x100)

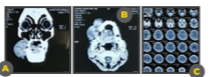


Figure 4: Head CT scan (July 2020) (a and b) axial and sagittal view showing mass extending into right maxilla. (c) no signs of intracranial metastasis.

## Discussion

The removal of maxillary rhabdomyosarcoma causes various level of tissue defects which can result in some functional problems from impaired mastication and deglutition. 4 Immediate repair after surgery will provide early functional recovery and prevention of scar contracture. 5 In the present case, defect after hemimaxillectomy was immediately reconstructed with musculocutaneous latissimus dorsi flap. Latissimus dorsi flap was choiced for this reconstruction due to its unique characteristics in muscle size and well-known vascular anatomy. 6 The maxillary defect was occupied with muscle flap, while skin flap was elevated and divided into two skin paddles to cover both nasal and oral lining. The thoracodorsal vessel was tunneled and connected (end to side) with the external carotid artery and external jugular vein.

## Conclusions

Surgical resection of maxillary embryonal rhabdomyosarcoma occasionally creates a large defect of maxilla that will be a challenging on its reconstruction. Latissimus dorsi flap can provide tissue volume and restore the 3-D structure of the maxilla. Vascularized latissimus dorsi flap transplantation can be used as an alternative treatment in limited maxillary defect correction after hemimaxillectomy.

CONFLICT OF INTEREST

THERE IS NO CONFLICT OF INTEREST

## Result

The patient was performed hemimaxillectomy with Weber Ferguson incision with lateral extension, followed with reconstruction of the maxillary defect using latissimus dorsi free flap.

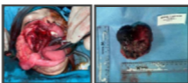


Figure 4: (a) Weber-Ferguson approach exposing the lesion-Maxilla-palatal defect after resection (b) The resected tumor mass.



Figure 6: (a, b, c) Latissimus dorsi flap was attached at recipient site, (d) primary closure of donor site



Figure 7: Two-week follow-up

## Reference

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