



## Hemangioma of Lower Lip - A Case Report

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**Abstract:** *Hemangioma is an endothelial tumor that most commonly found in infants and children. Most hemangiomas arise during birth or shortly after birth and proliferate during the first 18 months and then disappear spontaneously at the age of 5-10 years. The most complaints of patients with a hemangioma are the psychosocial problems, which are conditions that can affect the appearance and invite the attention of people around them. Some hemangiomas still require therapy, namely if the size and growth result in severe deformities, or if it interferes with vital functions, such as breathing, vision, hearing and digestion. Therapy depends on the size, location, and clinical stage. In this paper, we report an enormous hemangioma case involving the lower lip in male patients aged 45 years who has acquired wide excision (Cheiloplasty reduction).*

**Keywords:** *hemangioma; lips; tumor; excision*

### I. Introduction

Hemangioma is a benign tumor or hemartoma that occurs due to interference with the development and formation of blood vessels and can occur in all organs such as the liver, spleen, brain, bones, and skin.<sup>1</sup> Hemangioma is a benign tumor of blood vessels that can be Occurs in al organs of the body and occurs most frequently in the head and neck area.<sup>2,3</sup>

There are two major vascular abnormalities, which are vascular tumors and malformations. The vascular tumor is an endothelial tumor with an increase in the proliferation of endothelial cells.<sup>4</sup> Hemangioma is a benign tumor of the blood vessels where angiogenesis becomes the basis of the growth of local capillary vessels.<sup>5</sup> The terminology of Hemangiomas is an A time that continues to grow with endothelial hyperplasia during the proliferation phase and then undergoes a resolution phase. While vascular malformation is a cellular lesion is notdynamic.<sup>6</sup>

A birthmark commonly found in infants is vascular abnormalities on the skin that can occur anywhere with a flat or prominent surface, and varying colors such as redness or purplish. This birthmark usually appears at the age of the first year of birth and then disappears with age. The birthmark was named Angioma in the mid-19th century, although the naming is still confusing because of the varying forms, colors, and lesions.<sup>7</sup> Hemangioma is an endothelial tumor most commonly found in infants and children.<sup>4</sup> Most hemangiomas arise at birth or shortly after birth and proliferate during the first 18 months and then disappear spontaneously at the age of 5-10 years.<sup>8</sup>

Hemangiomas occur in 2.6% of birth in the world.<sup>9</sup> Hemangiomas are often found in infants and children but do not close the possibility that can occur in adults. About 4-10% of hemangiomas occur in Caucasian infants with a prevalence of 3-5 times higher in female infants.<sup>4</sup> the incidence of Hemangiomas is also mentioned to be directly related to low birth weight. Hemangiomas can occur in premature infants weighing 1500-2000 grams and its prevalence may increase to 20% in infants premature < 1000 grams.<sup>7, 10</sup> the area of the lesion hemangioma most common is in the area of craniofacial (60%) (%) followed by the trunk area (25%) and extremities (15%). A hemangioma can occur only in one area of lesions (80%) And the rest as multiple lesions (20%).<sup>4</sup>

The most common complaints of patients with a hemangioma are psychosocial problems, which are conditions that can affect appearance and invite attention to the people around them.<sup>11</sup> Some hemangiomas still require therapy, namely if the size and growth result in severe deformities, or if it interferes with vital functions, such as breathing, vision, hearing and digestion.<sup>12</sup>

## II. Case Report

A patient, male, 45 years old came to the polyclinic plastic surgery at Dr. Zainoel Abidin hospital in Banda Aceh with complaints of a lump on the right lower lip. The patient claimed the lump began to appear at birth but with a very small size, bluish red color and does not interfere with patient activity. However, when the patient is 18 years old, the lump on the patient's lips is traumatized until bloody is stunted when the patient is playing soccer, then by the patient, the bleeding is compressed with ice, and then a few days later the appear bumps are getting bigger. The patient had already performed 2 times of surgery for this complaint, which was on 15 and 9 years ago. There is no family history suffers from similar illnesses.

In the clinical examination, the patient's general condition is within normal limits. In an extraoral examination, precisely on the part of the lips look asymmetric on the right side of the face, the patient also seems difficult to close his mouth. In the intraoral examination, there is mass on the right lower lip with a size of 5 cm x 3.5 cm x 3 cm, bluish red color, compressible, painless, bruit, and thrill were not obtained (Fig. 1).

The result of blood laboratory test showed Hb 15.5 g/dl; Leukocytes 6.6/uL; Platelets 371/uL; BUN/SK 17/1.03 mg/dl; Na/K/ $\mu$ . The results of the chest radiograph are within normal limits. Patients then diagnosed as hemangioma of the lower lip. In these sufferers are done wide excision as a primary therapy due to attention to patient aesthetics.



*Figure 1. Preoperative Photo*

### III. Research Methods

The surgery was carried out under general anesthesia in hospital. The marking was made with surgical skin marker. Excision is made at the boundary of the swelling area, which starts from the vermilion of lower lip to the orbicularis oris muscle and then to the mentalis muscle. Excess amount is excised both intraoral & extraoral (Fig. 2). The entire mass of swelling was excised completely to prevent reoccurrence. Full-thickness lip excision is used to ensure a smooth lip contour by avoiding bunching of the deeper layers.



**Figure 2.** Excess Tissue Excised

Then the closure of the wedge excision is performed by suturing the muscles using absorbable suture and suturing the skin using non-absorbable suture (Fig. 3). The closure of a wedge excision of the lip can result in an increase in vertical lip length. This can elevate the vermilion-cutaneous border. To avoid this, a more rectangular block excision of the hemangioma is preferred to a V-shaped excision, because closure by flap advancement is less likely to lengthen the vertical height of the lip along the labial-mental crease. Excised tissue was sent to a laboratory for further investigation, and was confirmed to be a hemangioma. 3 days after treatment, healing was uneventful without necrosis or infection, muscle function returned immediately after disappearance of edema, lip movements were restored to normal (Fig. 4). 14 days after treatment, the esthetic result was remarkable (Fig. 5).



**Figure 3.** Postoperative Photo



**Figure 4.** Days Postoperative



**Figure 5.** 14 days Postoperative

## IV. Discussion

A patient, male, 45 years old came to the polyclinic plastic surgery at Dr. Zainoel Abidin hospital in Banda Aceh with complaints of a lump on the right lower lip. The lump began to appear at birth and enlarged after the trauma of the patient's lips which then causes bleeding in the lips of the patient and subsequently became an increasingly enlarged lump of the day. The patient then examined and then the diagnosis is made on the patient as hemangioma of the lower lip. The International Society for the Study of Vascular Anomalies classifies vascular abnormalities into 2 groups of vascular tumors and vascular malformations.<sup>13</sup>

Tumors are lesions originating from endothelial proliferation, whereas malformations are abnormalities of the structure with normal endothelial growth.<sup>13</sup> vascular tumors are endothelial tumors with an increase in the proliferation of endothelial cells.<sup>4</sup> Hemangioma is a benign tumor of the blood vessel where angiogenesis is the basis of the local growth of capillary vessels.<sup>5</sup> Hemangioma Terminology is a time that continues to grow with endothelial hyperplasia during the proliferation phase and then experiencing The resolution phase. Whereas vascular malformations are lesions that are cellular, not dynamic.<sup>6</sup>

Vascular Tumors	Vascular Malformations
<ul style="list-style-type: none"> <li>• Hemangioma               <ul style="list-style-type: none"> <li>• Hemangioma of infancy</li> <li>• Congenital                   <ul style="list-style-type: none"> <li>• Rapidly involuting congenital hemangioma</li> <li>• Noninvoluting congenital hemangioma</li> </ul> </li> </ul> </li> <li>• Hemangioendotheliomas               <ul style="list-style-type: none"> <li>• Kaposiform hemangioendothelioma</li> <li>• Tufted angioma</li> </ul> </li> <li>• Angiosarcoma</li> </ul>	<ul style="list-style-type: none"> <li>• Capillary               <ul style="list-style-type: none"> <li>• Capillary malformation (port-wine stain)</li> <li>• Telangiectasia (hereditary benign telangiectasia; essential telangiectasia)</li> <li>• Hereditary hemorrhagic telangiectasia</li> <li>• Capillary-arteriovenous malformation</li> <li>• Sturge-Weber syndrome</li> </ul> </li> <li>• Venous               <ul style="list-style-type: none"> <li>• Venous malformation</li> <li>• Familial form: Cutaneomucosal venous malformation</li> <li>• Glomovenous malformation</li> <li>• Blue rubber bleb nevus or Bean syndrome</li> </ul> </li> <li>• Lymphatic               <ul style="list-style-type: none"> <li>• Lymphatic malformation</li> <li>• Primary lymphoedemas</li> </ul> </li> <li>• Arterial               <ul style="list-style-type: none"> <li>• Arteriovenous malformation</li> <li>• Capillary-arteriovenous malformation</li> <li>• Arteriovenous fistula</li> </ul> </li> <li>• Syndromic malformations               <ul style="list-style-type: none"> <li>• Slow-flow                   <ul style="list-style-type: none"> <li>• Klippel-Trénaunay syndrome (capillary-lymphaticovenous malformation)</li> <li>• Maffucci syndrome</li> </ul> </li> <li>• Fast-flow                   <ul style="list-style-type: none"> <li>• Parkes Weber syndrome</li> </ul> </li> </ul> </li> </ul>

LM Boon, M Vakkula. Vascular malformations. In: K Wolff et al. eds. Fitzpatrick's Dermatology in General Medicine. 7th ed. New York, NY: McGraw-Hill; 2008:1651-1666.

**Figure 6.** Classification of Vascular Abnormalities The International Society for The Study of Vascular Anomalies.<sup>13</sup>

Hemangiomas show increased endothelial proliferation in the first year of birth, then can undergo involution and spontaneous regression. While the vascular malformations consist of dysplastic blood vessels with normal endothelial cycles. Vascular malformations never experience involution or regression.<sup>10</sup>

	Tumors	Malformations
Present at birth	Usually postnatal, 30 percent nascent, rarely fully grown	100 percent (presumably), not always obvious
Male:female ratio	1:3-1:5	1:1
Incidence	1-2.6 percent at birth; 10-12 percent at 1 year	0.3-0.5 percent "port-wine" stain
Natural history	Phases: Proliferating, involuting, and involuted	Proportionate growth, can expand
Cellular	Endothelial hyperplasia	Normal endothelial turnover
Skeletal changes	Occasional mass effect on adjacent bone; rare hypertrophy	Slow flow: distortion, hypertrophy, or hypoplasia Fast flow: destruction, distortion, or hypertrophy
SOURCE: Modified from Mulliken and Young. <sup>1</sup>		

**Figure 7. The Difference between Hemangioma and Vascular Malformation.**<sup>14</sup>

A hemangioma can be divided into two groups, namely infantile and congenital hemangiomas. Infantile hemangiomas are more frequent and usually have been seen since birth and growing rapidly in a few months later, and stop growing after one year of age until involution occurs. Infantile hemangiomas are generally divided into the phase of proliferation (0-1 years), the involution phase (1-5 years) and the cured phase (5-10 years). Congenital hemangiomas grow completely after birth and can occur involution or noninvolution (permanently).<sup>15-17</sup> Hemangioma pathogenesis is not known with certainty. It is thought that hemangiomas occur due to disorders of the angiogenesis and vasculogenesis processes causing uncontrolled proliferation of vascular elements. Vasculogenesis is the process of the occurrence of endothelial cell precursors into blood vessels, while angiogenesis is the development of new blood vessels from the existing blood vessel system.<sup>18</sup>

Histopathology of hemangioma is divided into 2 types, namely capillary hemangiomas and cavernous hemangiomas.<sup>3</sup> The diagnosis of Hemangiomas is made by anamnesis, physical examination, and radiology. A definite diagnosis can also be performed with histopathology inspection.<sup>2, 19</sup>

The clinical features of hemangiomas vary greatly depending on tumor size, location, depth, and clinical stage.<sup>20</sup> The earliest sign of a hemangioma is the appearance of purple on the affected skin.<sup>18</sup> Hemangiomas are rarely painless unless there is ulceration.<sup>15, 21, 22</sup> almost in all cases, diagnosis can be made exclusively based on physical examinations and history. However, some types of hemangiomas can be confused with vascular malformations or other types of tumors, so that the following investigations are needed:

#### 1. USG

Ultrasonography is useful for distinguishing hemangiomas from deep or subcutaneous dermis structures, such as cysts or lymph nodes. Ultrasound in general has limitations in evaluating the size and spread of hemangiomas. It also said that doppler ultrasound (2 kHz) can be used for high blood vessel density and changes in arterial peaks. Examination using this tool is a sensitive and specific examination to identify an infantile hemangioma and distinguish it from other soft tissue masses.<sup>23</sup>

## 2. MRI

MRI is the imaging modality of choice because it is able to find out the location and spread of both cutaneous hemangiomas and extractions. MRI can also help differentiate hemangiomas that are proliferating from other high-flow vascular lesions (e.g. arteriovenous malformations).<sup>24-26</sup>

## 3. Skin Biopsy

Biopsy is needed if there is doubt in diagnosis or to rule out kaposiform hemangioendothelioma or malignant disease. Immunohistochemical examination can help make the diagnosis.<sup>18, 20</sup>

Generally, hemangiomas do not cause complications and can be observed until spontaneous involution. Spontaneous regression occurred in 80% to 85% of cases there were 9 years of age.<sup>27, 28</sup> although it's benign, psychologically hemangiomas are also quite influential to the patients and families, so it is often a question of when the spontaneous involution period will occur. Experts recommend that immediate treatment of hemangiomas > 10 cm in size because it is likely to occur giant hemangiomas.<sup>18</sup> Some hemangiomas may be life-threatening or organ functions and certainly require immediate treatment. The treatment is performed on hemangiomas that can cause functional complications, which could cause permanent form changes, which are located in a place that interferes with cosmetics, causing psychosocial distress.<sup>29</sup>

Doing observation and consultation on plastic surgeons is also very important if the lesions are large, grow fast, have ulceration and even bleeding occurs, on the site of the lesion that could potentially snag, the presence of airway obstruction, interference vision, cardiovascular-related, thrombocytopenia occurs, pain and other possible complications.<sup>4, 10, 30</sup> five percent of skin hemangiomas that are mostly in the lip and anogenital area, can undergo ulceration. Healing from re-epithelization takes a longer time.<sup>7</sup>

The indications for excision surgery are as follows:<sup>31</sup>

1. Hemangiomas that grow progressively.
2. Hemangiomas that have recurrent infections.
3. Hemangiomas whose surface reverberates, so it is feared accompanied by malignancy.
4. Cosmetically disrupting.
5. Hemangiomas that fail with medical treatment.
6. Hemangioma stemmed.

Surgery requires attention to several things, especially the risk of intraoperative and post-operative bleeding, as well as the involvement of important organs, such as the eye or facial nerve, the most important surgery must also consider the aspects of efficacy, efficiency, aesthetics and functional.

## V. Conclusion

Hemangioma is a benign tumor or hamartoma that occurs due to a disruption in the development and formation of blood vessels and can occur in all organs such as liver, spleen, brain bones and skin. This disease is often found in infants and children, but does not rule out the possibility of it can occur in adults. Hemangiomas are benign endothelial vascular tumors that are characterized by a typical growth phase consisting of a proliferation phase and an involution phase. Spontaneously, hemangiomas generally experience an involution phase and do not require treatment. However, in some cases spontaneous involution may occur or involution occurs slowly so that the size of the hemangioma still looks large. In severe cases and already very disturbing both functionally and aesthetically it is necessary to consider surgery or surgery. Surgery on hemangiomas should be done as early as possible to reduce the risk of tissue damage due to an enlarged tumor.

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