A 23-year-old male patient consulted in the department of oral pathology for the treatment of the tongue and lower lip swelling that has lasted for 20 years, and lead to difficulty in oral function.

The patient gave a history of temporary regression of the lesion following prolonged bleeding due to trauma from the teeth.

Movement of the tongue provoked pain in the swelling region.

Enlargement was diffuse, fleshy and erythematous in appearance with foci of ulceration, involving almost two-thirds of the tongue anteriorly with a deviation toward the left side. Similar swelling involved the lip on the right side.

**1) What is your diagnosis?**

a) Lymphangioma  

b) Hereditary macroglossia  

c) Hemangioma  

d) Amyloidosis  

d) Squamous cell carcinoma  

**Part I**

Let’s go step by step from the patient’s detail and assemble all the clues together.

**Clue No. 1:** Age, site and duration: 23-year old, tongue (majorly right side) and lower lip swelling for approximately the last 20 years, leading to difficulty in the functions associated.

**Conclusion:** Doesn’t appear to be squamous cell carcinoma as it started at around 2 to 3 years of age.

**Clue No. 2:** History — Patient gave a history of temporary regression of the lesion following prolonged bleeding due to trauma from the teeth. Movement of the tongue provoked pain in the swelling region.

**Conclusion:** Apparently a soft and vascular lesion with phases of regression with bleeding. This again rules out squamous cell carcinoma, hereditary macroglossia and amyloidosis because these are supposedly firm lesions.

**Clue No. 3:** Appearance — Enlargement was diffuse, fleshy and erythematous in appearance with foci of ulceration, involving almost two-thirds of the tongue anteriorly with a deviation toward the left side. Similar swelling involved the lip.

**Conclusion:** This can help us rule out hereditary macroglossia; the reason being it’s a muscular hypertrophy, most often bilateral, doesn’t show fluctuations and generally not erythematous and doesn’t bleed often.
Narrowing down the diagnosis
a) Lymphangioma
b) Hemangioma
c) Amyloidosis

Ruling out amyloidosis
The tongue generally becomes smooth or may possess a variety of polyoid appendages that form as the tongue grows against gaps in the teeth.
In addition to its large size, the tongue becomes adynamic, firm and friable and may cause problems with deglutition, speech and breathing. The tongue tissue may break down and haemorrhage due to the size.
There are two types of amyloidosis:
• Organ-limited amyloidosis rarely shows up in oral soft tissues.
• Systemic amyloidosis show various other systemic signs and symptoms.
Thus, complete systemic examination and probably a biopsy is required before making a diagnosis of amyloidosis.

Ruling out lymphangioma
When seen in the denser tissue such as the tongue, lymphangioma is confined and histologically it presents as a microcystic lesion unlike a macrocystic lesion in the looser tissues. The tongue presents superficially as “pebbly” with a vesicle-like feature and a so-called “frog-egg” or “tapio-ca-pudding” appearance. If located deeper, lymphangioma may present as a submucosal mass.
About 50 percent of the lesions are noted at birth and around 90 percent develop by 2 years of age.
Other causes of macroglossia:

Part II: Hemangiomas
2) Check your knowledge of hemangiomas by marking true or false next to each of the following:

a) A hemangioma is a benign, self-involuting tumor of endothelial cells (the cells that line blood vessels) leading to an abnormal proliferation of blood vessels that may occur in any vascularized tissue.
b) Hemangiomas are one of the most common birthmarks in newborns.
c) The appearance depends on location. Superficials appear reddish; however, if they are just under the skin they present as a bluish swelling.
d) Some are formed during gestation while others (the most common) are not present at birth but appear during the first few weeks of life.
e) Histologically, subclassified as capillary or cavernous depending on the size of the vascular channels.
f) Show giant cell inflammatory reaction.
The development cycle of hemangiomas includes three stages of development and decay:
• In the proliferation stage, a hemangioma grows very quickly. This stage can last up to 12 months.
• In the rest stage, there is very little change in a hemangioma’s appearance. This usually lasts until the infant is 1 to 2 years old.
• In the involution phase, a hemangioma finally begins to diminish in size. Fifty percent of lesions will have disappeared by 5 years of age and the vast majority will have disappeared by 10 years of age.

3) Which of the following complications can a hemangioma show?
a) Bleeding
b) Breathing and eating difficulties
c) Secondary infections
d) Vision problems
e) All of the above
4) Which of the following is a recommended form of treatment?
a) Generally regresses on its own, especially the superficial one; so no treatment required.
b) In some cases, a surgical treatment or lasers may be used to remove the small vessels.
c) Cavernous hemangiomas are generally treated with steroid injections or laser treatments or combination treatment.
d) All of the above are correct.

(Answers are below.)
1) c (hemangioma)
2) a = true, b = true, c = true, d = true, e = true, f = false
3) e (all of the above)
4) d (all of the above)

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