



## Pseudo-Ludwig's Phenomenon: A Case Report and Literature Review

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### ARTICLE INFO

#### Article history:

Received: 08 March 2018;

Received in revised form:

8 April 2018;

Accepted: 17 April 2018;

#### Keywords

Pseudo-Ludwig's Phenomenon,  
Anticoagulants.

### ABSTRACT

Pseudo-Ludwig's phenomenon, a rare clinical entity, is characterized by non-infectious upper airway obstruction resulting from spontaneous hematoma in the sublingual area. We describe a case of pseudo-Ludwig's phenomenon in patient on anticoagulants with deranged coagulation profile.

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### Introduction

Submental hematoma or pseudo-ludwig's phenomenon is characterized by non-infectious upper airway obstruction resulting from spontaneous hematoma in the sublingual space. We describe a rare case of spontaneous hematoma of the sublingual floor in anticoagulated patient that can precipitate upper airway obstruction.

#### Case report:

A 66- year-old man with past medical of ischemic heart disease with rhythm disorders on anticoagulation (vitamin K antagonist (VKA) therapy) presented to emergency room for dysphagia, dysphonia and mild breathing difficulty, there was no history of falls, facial trauma nor dental procedures.

The clinical examination finds a hematoma of the oral floor extended towards the base of tongue, the epiglottis and the supraglottic stage. (fig1)



**Fig. 1.** Oral examination showing significant floor of mouth with swelling and hemorrhagic changes.

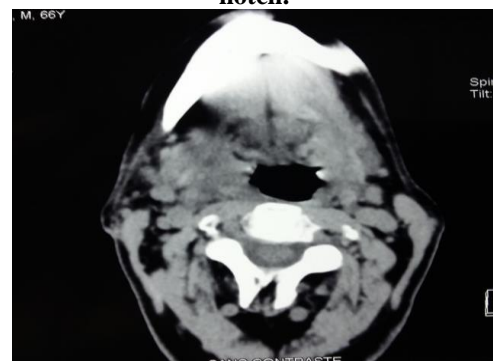
Neck examination was significant for swelling in the submental area and mild discoloration of the skin down to level of supra-sternal notch (fig 2).

Biological test showed an International normalized ratio (INR) > 7, Prothrombin (TP) <10% and Prolongation in activated thromboplastin time active.

Unenhanced and enhanced CT scan of the neck demonstrates large heterogeneous non enhancing mass at the floor of the mouth confined within the sublingual space. There was no extension to the adjacent submental or submandibular space (fig 3).



**Fig 2.** Swelling in the submental area and mild discoloration of the skin down to level of supra-sternal notch.



**Fig 3.** Axial image through the hyperdense mass within the floor of mouth confined to the sublingual space.

A clinical diagnosis of spontaneous submental hematoma secondary to anticoagulant-induced coagulopathy was made.

The patient was put on oxygen therapy, antibiotherapy with monitoring of the respiratory function. The hematoma and the swelling were resolved in three days, without recurring to tracheotomy.

#### Discussion:

Pseudo-Ludwig's phenomenon was first described by Lepore in 1976 as a condition caused by deranged coagulation resulting in spontaneous bleeding into the sublingual and submaxillary spaces and acute upper airway obstruction [1].

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Although the sublingual space is a highly vascular area, is rarely a site of spontaneous hematomas [2].

Floor of mouth hematomas have been described after trauma, dental implant procedures angioedema or pseudoaneurysm [3].

There are rare reports of hematomas in this region complicating excessive anticoagulation [3].

The floor of the mouth is composed of multiple fascial spaces, covered by mucosa therefore a local oedema and hematoma can readily expand and lead to the elevation of tongue and floor of the mouth culminating in upper airway blockade [2,4].

The management of these cases required to secure the airway as a first step. The conservative management was reported in most cases in literature as a successful management in reducing the volume of the hematoma once the causative factors have been corrected.

The surgical attempt to evacuate the hematoma is controversial and can cause more swelling [5,6]. The use of leeches has also been reported to aid in the resolution of the hematoma [7].

In our case there has been spontaneous resolution once the coagulation anomaly has been controlled.

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