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Case Study

A Case Report on Coagulopathy Induced Pharyngeal and Laryngeal Hematoma

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ABSTRACT

Coagulopathy-induced laryngeal and pharyngeal hematomas represent a rare but potentially life-threatening clinical entity characterized by haemorrhagic infiltration of upper airway soft tissues due to impaired coagulation. These hematomas can result from anticoagulant therapy, thrombocytopenia, inherited bleeding disorders, or systemic conditions such as liver disease or disseminated intravascular coagulation. A 73-year-old female had presented with swelling in the neck and hand and was diagnosed with coagulopathy-induced pharyngeal and laryngeal hematoma. Imaging had revealed hematomas in the tonsillar and laryngeal regions, along with thyroid nodules and thickened aryepiglottic folds. Laboratory tests had shown dimorphic anemia, elevated INR, and increased CRP, suggesting underlying inflammation and coagulopathy. She had been managed with FFP transfusion, supportive care, antibiotics, vitamin K, tranexamic acid, and other symptomatic medications, and ENT evaluation later confirmed hematoma resolution with subsequent adjustment of her treatment plan. Early recognition and multidisciplinary management are essential to prevent morbidity and mortality. This condition underscores the importance of careful monitoring in patients with bleeding diatheses or on anticoagulation, particularly when presenting with upper airway symptoms.

INTRODUCTION

Coagulopathy-induced laryngeal and pharyngeal hematoma is a rare but potentially life-threatening

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condition characterized by bleeding into the soft tissues of the upper airway, including the larynx, pharynx, or surrounding structures, due to an underlying coagulation disorder [1,2]. Coagulopathies, which may result from congenital disorders, liver dysfunction, anticoagulant therapy, or systemic illnesses, impair the normal hemostatic balance and increase the risk of spontaneous or trauma-induced bleeding [3,4].

In the context of the upper airway, the formation of a hematoma can cause rapid swelling and compromise the airway, leading to symptoms such as dysphagia, hoarseness, dyspnea, stridor, or even acute airway obstruction [5]. The laryngeal and pharyngeal tissues are particularly vulnerable due to their rich vascular supply and proximity to critical respiratory pathways. Hematomas in these areas may arise spontaneously or following minor trauma, surgical procedures, intubation, or excessive coughing or vomiting in predisposed individuals [6].

Diagnosis is primarily based on clinical presentation and supported by imaging modalities such as contrast-enhanced CT, MRI, or direct laryngoscopy [7,8]. These tools help localize the hematoma, assess its extent, and rule out other causes of upper airway obstruction. Laboratory investigations typically reveal abnormalities in coagulation parameters, such as elevated prothrombin time (PT), activated partial thromboplastin time (aPTT), international normalized ratio (INR), and platelet count anomalies [9].

Prompt recognition and intervention are critical, as delayed management may lead to airway compromise or respiratory failure [10]. The therapeutic approach includes stabilization of the airway, reversal or correction of the coagulopathy (using agents such as fresh frozen plasma, vitamin K, or platelet transfusions), and supportive care [11]. In severe cases, surgical intervention or tracheostomy may be necessary [12]. Understanding the pathophysiology and clinical behaviour of coagulopathy-induced laryngeal and pharyngeal hematomas is essential for early diagnosis and effective management, thereby preventing serious complications and improving patient outcomes [13].

CASE PRESENTATION

History and clinical examination

A 73-year-old female patient had been admitted to the general surgery department with complaints of swelling in the front of the neck and palm. The patient had been diagnosed with coagulopathy-induced pharyngeal and laryngeal hematoma. Examination had revealed throat congestion and edema in the right hand. Imaging studies, including USG of the neck, DLE, and MDCT scans, had been conducted. The DLE and MDCT scans had shown cystic nodules in both thyroid lobes and revealed hematomas in the tonsillar and laryngeal regions, thickening of the aryepiglottic folds, and enhanced nodules within the thyroid. Further findings had included a Grade I fatty liver on abdominal USG, no abnormalities on plain thoracic CT, and age-related neuroparenchymal atrophy with small vessel ischemic changes on CT brain.

The blood picture (peripheral smear study) had shown dimorphic anemia (ranging from normocytic normochromic to microcytic hypochromic), moderate relative eosinophilia, and mild thrombocytosis. Laboratory investigations had revealed marked anemia with hemoglobin levels between 8.9–9.0 g/dL (normal: 11.0–17.0 g/dL), elevated INR values up to 28.5 seconds (normal: 11–15 sec), and increased CRP levels (18.9 mg/L, normal: <5 mg/L), indicating an inflammatory response and coagulopathy. The

peripheral smear had shown dimorphic anemia with anisopoikilocytosis and moderate eosinophilia. Serum procalcitonin had been <0.05 ng/mL, indicating a low risk of systemic bacterial infection. Renal function had been preserved, with an eGFR of 98 ml/min (normal: >60 ml/min). Infectious screenings including HBsAg, HCV, HIV 1&2, and COVID-19 RT-PCR had returned non-reactive/negative results. Urine culture had revealed no significant bacteriuria.

The patient had undergone ENT evaluation following a suspected hemorrhagic complication, and an EUA with DLE had shown resolution of a bilateral pyriform fossa hematoma. Management had included transfusion of 1 pint of FFP (Fresh Frozen Plasma) and supportive therapy.

The patient was prescribed multiple medications as part of her treatment regimen during her hospital stay. The patient was administered Inj. Izone S 4.5 g twice BD, to treat confirmed bacterial infection. For gastric protection, the patient received Inj. Pantop 40 mg OD. Oral Metformin 500 mg BD was continued for glycemic control, and Amlodipine 5 mg OD was prescribed for hypertension management. Additionally, the patient was continued on oral Pantoprazole OD. Inj. Tranexa, a fibrinolytic agent was given BD. Inj. Vitamin K was administered OD for 3 days likely to address coagulopathy . The medications were reviewed and some were stopped based on the clinical progress. This comprehensive pharmacological approach reflects the patient's need for infection control, metabolic regulation, cardiovascular support, gastrointestinal protection, and correction of coagulopathy.

DISCUSSION

A pharyngeal and laryngeal hematoma was defined as the accumulation of blood within the soft tissues of the pharynx (the area behind the nose and mouth) and the larynx (the voice box). It typically resulted from bleeding caused by trauma, coagulation abnormalities, or medical procedures, which led to localized swelling and compromised airway. Coagulation-induced hematomas in these regions were often associated with bleeding disorders or the use of anticoagulant medications such as warfarin or heparin [1]. The sudden onset of symptoms includes neck swelling, sore throat, neck pain, dyspnoea and edema in the laryngeal and pharyngeal wall. The management of coagulopathy-induced pharyngeal and laryngeal hematoma primarily focused on stabilizing the airway, correcting the underlying coagulopathy, and providing supportive care. Patients were closely monitored for signs of airway compromise, and in cases of respiratory distress, interventions such as fiberoptic intubation or emergency tracheostomy were performed. Anticoagulant medications were discontinued, and reversal agents such as intravenous vitamin K and fresh frozen plasma (FFP) were administered to restore normal coagulation. In some cases, platelet transfusions were also given, depending on the severity of the bleeding disorder. Imaging studies like CT scans or direct laryngoscopic evaluations were conducted to assess the extent of the hematoma [2].

Kakuchi et al. (2016) reported a case of an 81-year-old woman who developed a spontaneous retropharyngeal and laryngeal hematoma due to warfarin use. She presented with dysphagia and hoarseness, and imaging confirmed a large hematoma. Management included stopping warfarin, administering Vitamin K and FFP, and close airway monitoring. The patient recovered without requiring intubation or surgical intervention [14].

Oshima et al. (2015) described a 72-year-old male on dual antiplatelet therapy who developed a laryngeal hematoma, presenting with airway

obstruction and hemoptysis. Due to the severity of the airway compromise, an emergency tracheostomy was performed along with hemostatic treatment, including tranexamic acid and platelet transfusions [15].

In this case, the spontaneous pharyngeal and laryngeal hematoma in an elderly patient without prior anticoagulant use highlighted the need for a thorough hemostasis workup, including evaluation for acquired factor deficiencies and occult malignancy. Thyroid nodules warranted assessment via FNA or serial USG to exclude neoplastic or vascular causes. Off-label anticoagulants were avoided, and future anticoagulation was planned cautiously.

CONCLUSION

In conclusion, this case of spontaneous pharyngeal and laryngeal hematoma in an elderly patient without prior anticoagulant use underscores the importance of a comprehensive hemostatic evaluation and vigilant clinical monitoring. This case emphasized the importance of proactive coagulation management in similar elderly patients. Further assessment of thyroid nodules is essential to rule out underlying neoplastic or vascular causes. If future anticoagulation is required, it should be approached with caution, guided by regular coagulation monitoring. Long-term multidisciplinary follow-up and prophylactic management during minor procedures are recommended to minimize the risk of recurrence and ensure optimal patient outcomes.

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