Case Report

A Rare Case of Spontaneous Supraglottic Hematoma Presenting with Stridor


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Abstract

In clinical practice, airway hematoma is commonly occurs following trauma to the neck. A 51 year old gentleman with respiratory difficulty presented to our casualty. He was a cardiac patient on oral anticoagulants. On examination he had extensive supraglottic and neck hematoma. At admission his INR showed no coagulation. The patient was managed conservatively with Vit.K, FFP and steroids. He improved dramatically within a couple of days. We want to share our experience of this interesting case with a controversial management protocol.

Key Words: Supraglottic Hematoma, Management, Warfarin

Introduction

Hematoma in the airway may become life threatening and it is not an uncommon clinical entity. Most commonly haemorrhage in the airway occurs after a minor trauma in patients with coagulopathies. Here we present an interesting case of spontaneous supraglottic hematoma almost obstructing the airway which was managed with a multidisciplinary team approach in our institute.

Case Report

A 51 year old man presented to our casualty with history of difficulty in breathing and bleeding from the mouth for 1 day. He gave history of swelling in the neck and tongue for 2 days (Fig1). He gives a history fever which was treated with NSAID’s. He gave a history of a double valve replacement surgery in 2010 for a rheumatic heart disease and hence was on warfarin therapy. O/E Patient was conscious, oriented, tachypnoiec and was in mild inspiratory stridor. PR - 112/min, BP- 110/80, SPO2 – 98% in sitting position. He had an open mouth breathing with sublingual hematoma restricting mouth opening, tongue movements and oropharyngeal and laryngeal examination. He also had diffuse neck swelling obscuring the laryngeal contour (Fig2).

Investigations

At admission his INR showed no coagulation. Initially he was managed with Vit K injection and 2 units of FFP. His ECHO showed normally functioning mitral and aortic prosthesis. Attempts for fibroptic intubation failed but laryngoscopy revealed extensive supraglottic edema and hematoma, laryngeal inlet was not visualised.

Treatment

Patient was managed conservatively with the Cardiologist, Anaesthetist, ENT surgeon and Intensivist working in a multidisciplinary team approach. High risk consent for Tracheostomy was obtained but the procedure was deferred due to high INR. Patient drastically improved in a day with Oxygen, head end elevation, IV steroids, FFP (Fig3).

Discussion

Warfarin is a commonly used oral anticoagulant. It inactivates Vitamin K in the hepatic microsomes, thereby the formation of Vitamin-K dependent clotting factors II, VII, IX, X, and protein C and S is reduced1. It is completely absorbed and has a half-life of 37 hrs during which it is completely bound to plasma albumin. It is metabolized in the hepatic microsomes by enzymes CYP2C9 and Vitamin K Epoxide reductase (VKORC1) to produce inactive metabolites excreted in the urine and stools1.

Warfarin is known to interact with approximately 80 other drugs3. It is inhibited by drugs such as barbiturates or phenytoin that accelerate warfarin degradation. Potentiating drugs include allopurinol, amiodarone, cephalexins that inhibit the generation of vitamin K2. Drugs that decrease warfarin degradation and increase the anticoagulant effect include a variety of antibiotics such as metronidazole, cotrimoxazole, ciprofloxacin, omeprazole and ethanol3,4. Antiplatelet drugs such as aspirin, clopidogrel and NSAIDs may potentiate the risk of bleeding5.

In patients receiving Warfarin the risk of haemorrhage is 6.8%5. This can commonly present as epistaxis in Otorhinolaryngological practice. Other bleeding manifestations are blood in urine and stools and...
subconjunctival haemorrhage. Intracranial and gastrointestinal haemorrhage can be life-threatening. Haematoma in the airway is not a common clinical occurrence, but can prove fatal. Hence it is wise to counsel patients on oral anticoagulation not to take any over-the-counter drugs without consultation, and for the treating physician to check for any new drug used. If in doubt, the INR should be monitored more frequently. Dosage adjustment may be required based on food interaction and alcohol consumption.

Bleeding is more common in elderly patients soon after starting therapy, which is a high danger period. The recommended INR for patients on anticoagulants is variable. It is suggested that patients with prosthetic heart valves require a better degree of safe anticoagulation and the usual recommended INR range is from 2.5 to 3.5, with lower values for those with bio-prosthetic valves and mechanical aortic rather than mitral valves.

Patients with airway hematoma need to undergo a detailed airway evaluation with flexible laryngoscopy. They have to be closely observed for airway compromise and can be maintained on oxygen therapy, Vitamin K and Fresh Frozen Plasma (FFP). However, there has been controversy as to whether these patients have to be managed with intubation or tracheotomy/cricothyroidotomy, or if simple observation will suffice, with intubation and surgical management deferred until the patient deteriorates. There has been argument both for and against this suggested protocol.

There has been several reports of difficult intubation that has failed because the hematoma can have a distorting effect on the local anatomy. There is a high possibility that the attempts of intubation can induce further haemorrhage from the trauma of the blind intervention. In an acute emergency of airway compromise with raised INR in an anticoagulated individual, surgical interventions are not the ideal primary modality of management. Many authors argue that compared to tracheostomy, the dissection in cricothyroidotomy is through relatively avascular tissues and hence may be a more preferable procedure in such cases. When abscess formation occurs patient can be started on antibiotics. Anticoagulant therapy with warfarin can be restarted once INR returns to normal.

The pathology in the supraglottis, in our patient, seemed to be a submucosal hematoma with subsequent extensive mucosal edema which responded well to steroids. The sublingual hematoma due to its mass effect distorted the intraoral anatomy giving a “pseudo-Ludwig” appearance. This has been previously reported by certain authors.

Conclusion

By presenting this case report we want to emphasize on the fact that even without any traumatic mucosal hematoma can develop in a warfarinized patient. An airway hematoma is potentially life-threatening. Conservative treatment with fresh frozen plasma and vitamin K is the mainstay of management unless airway compromise occurs. If patient presents with signs of obstruction on clinical examination, only then intervention is indicated. As in our case usually spontaneous resolution occurs with the return of INR to normal.
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References

1) Drugs for the Heart Lionel H. Opie 7th edition

Answer to: Diagnose the condition

The ECG shows extreme bradycardia with rate of 25 per minute. No P waves were noted. R-R interval is regular. QS Complexes in lead V1 and V2 suggests old septal infarct. The patient is suffering from sick sinus syndrome with junctional escape rhythm of narrow QRS morphology. The lower escape rate suggests a probable degenerative disease of the entire conduction system along with Coronary artery disease.

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