Case Report

A Rare Case of Spontaneous Supraglottic Hematoma Presenting with Stridor

* Preethi P, **Arumugam C, ***JothiRamalingam S B, ****Thirunavukarasu P, *****Priya K, *Jagadeesh Marthandam L

*Senior Resident, Dept. of ENT, **Associate Professor, Dept. of Cardiology, ***Professor & HOD, ****Associate Professor, *****Assistant Professor, Dept of ENT , Chettinad Hospital & Research Institute, Chennai, India.

Dr.Preethi completed her undergraduation and PG diploma in ENT from Madras Medical College. She went onto do her DNB ENT from Madras ENT Research Foundation under Padmashree Professor. Mohan Kameswaran. She is currently working as a Senior Resident at Chettinad Hospitals & Research Institute. Her interests are Head & neck oncology and hearing disorders in special children.

Corresponding author Preethi P (ppreethi_mmc@yahoo.co.in)

Chettinad Health City Medical Journal 2015; 4(4): 188 - 190

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 casuality. 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 casuality 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 fibreoptic intubation failed but larygoscopy 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 reduced[1]. 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 stools[1].

Warfarin is known to interact with approximately 80 other drugs[1]. It is inhibited by drugs such as barbiturates or phenytoin that accelerate warfarin degradation. Potentiating drugs include allopurinol, amiodarone, cephalosporins that inhibit the generation of vitamin K[2]. Drugs that decrease warfarin degradation and increase the anticoagulant effect include a variety of antibiotics such as metronidazole, cotrimoxazole, ciprofloxacin, omeprazole and ethanol[3,4]. Antiplatelet drugs such as aspirin, clopidogrel and NSAIDs may potentiate the risk of bleeding[1] .

In patients receiving Warfarin the risk of haemorrhage is 6.8%[5]. This can commonly present as epistaxis in Otorhinolarygological practice. Other bleeding manifestations are blood in urine and stools and

subconjunctival haemorrhage. Intracranial and gastrointestinal haemorrhage can be life-threatening[6]. 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[7]. 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[2].

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)[8]. 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[9,10,11].

There has been several reports of difficult intubation that has failed because the hematoma can have a distorting effect on the local anatomy[8]. There is a high possibilty that the attempts of intubation can induce further haemorrhage from the trauma of the blind intervention[8]. 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 tissues12 and hence may be a more preferable procedure in such cases. When abscess formation occurs patient can be started on antibiotics[13,14]. Anticoagulant therapy with warfarin can be restarted once INR returns to normal and the hematoma shows signs of resolution[13,14].

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 previ ously reported by certain authors[15].

Conclusion

By presenting this case report we want to emphasize on the fact that even without any traumamucosal hematoma can develop in a warfarinized patient. An airway haematoma is potentially life-threatening. Conservative treatment with fresh frozen plasma and vitamin K is the main stay of management unless airway compromise occurs[13,16]. 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[13,14].

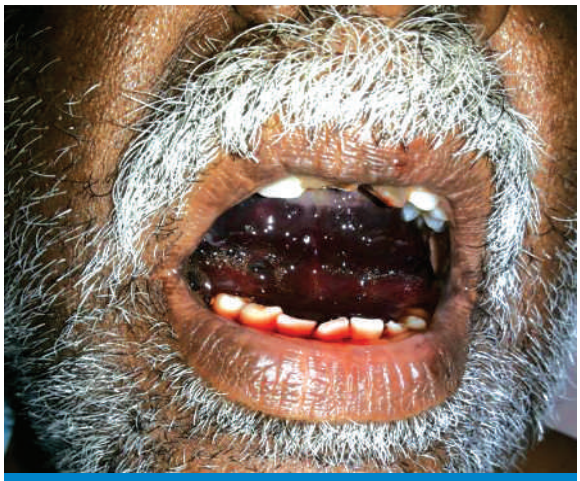

Fig 1 - Patients at presentation showing a sublingual and neck hematoma

Fig 2 - X-ray soft tissue neck lateral view showing compromised airway

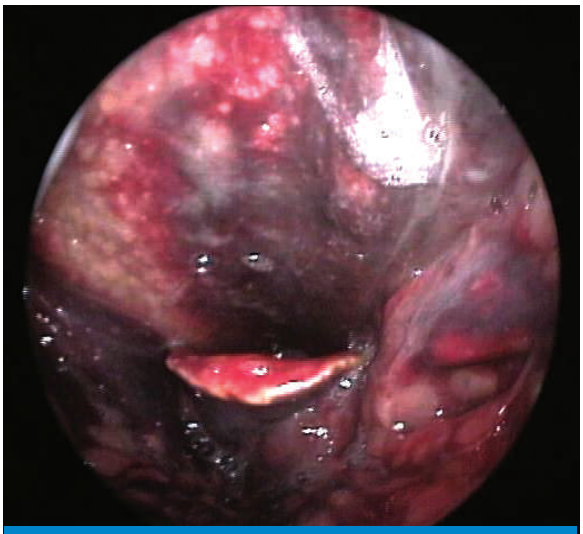

Fig 3 - Picture of Supraglottis of the same patient after 3 days of conservative management.

References

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

2) Hirsh J, et al. American Heart Association/ American College of Cardiology Foundation guide to warfarin therapy. J Am Coll Cardiol 2003;41:1633-1652.

3) Drugs and Therapeutics Bulletin, Drugs and alcohol: harmful cocktails? 31996;34(5):36-8.

4) Kater RM, Roggin G, Tobon F, Zieve P, Iber FL. Increased rate of clearance of drugs from the circulation of alcoholics. Am J Med Sci. 1969 Jul;258(1):35-9.

5) Coon WW, Willis PW 3rd.Hemorrhagic complications of anticoagulant therapy. Arch Intern Med. 1974 Mar;133(3):386-92.

6) Jandreau SW, Mayer D. Spontaneous bilateral arytenoid hematoma in a patient on warfarin. Am J Emerg Med. 1998 Nov;16(7):674-6.

7) Hylek EM, et al. Major haemorrhage and tolerability of warfarin in the first year of therapy among elderly patients with atrial fibrillation. Circulation 2007:115:2689-2696.

8) Lim M, Chaudhari M, Devesa PM, Waddell A, Gupta D. Management of upper airway obstruction secondary to warfarin therapy: the conservative approach. J Laryngol Otol. 2006 Feb;120(2):e12.

9) Cohen AF, Warman SP. Upper airway obstruction secondary to warfarin-induced sublingual hematoma. Arch Otolaryngol Head Neck Surg. 1989 Jun;115(6):718-20.

10) Hefer T, Netzer A, Joachims HZ, Golz A. Upper airway obstruction--a rare complication after anti-coagulant therapy. Harefuah. 1993 Mar 15;124(6):336-8, 391.

11) Rosenbaum L, Thurman P, Krantz SB. Upper airway obstruction as a complication of oral anticoagulation therapy. Report of three cases. Arch Intern Med. 1979 Oct;139(10):1151-3.

12) Uppal HS, Ayshford CA, Syed MA. Spontaneous supraglottic haemorrhage in a patient receiving warfarin sodium treatment. Emerg Med J. 2001 Sep;18(5):406-7.

13) Gonzalez-Garcia R, Schoendorff G, Munoz-Guerra MF, et al. Upper airway obstruction by sublingual hematoma:a complication of anticoagulation therapy with acenocoumarol. Am J Otolaryngol 2006;27:129-32

14) Pathak R, Supplee S, Aryal M, Karmacharya P. Warfarin induced sublingual hematoma: a Ludwig angina mimic. Am J Otolaryngol 2015;36:84-86.

15) Lepore ML. Upper airway obstruction induced by warfarin sodium. Arch Otolaryngol. 1976 Aug;102(8):505-6.

16) Cashman E, Shandilya M, Amin M. Warfarin-induced sublingual hematoma mimicking Ludwig angina: conservative management of as potentially life-threatening condition. Ear Nose Throat J 2011:90:E

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.

Dr. M.Chokkalingam, Consultant Cardiologist, CSSH.