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SHORT SCIENTIFIC COMMUNICATION

Management of epistaxis during COVID-19 pandemic

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ABSTRACT

Epistaxis represents a commonly encountered manifestation in the ENT Emergency Department. Healthcare providers working in the ENT Emergency Department are at high risk of COVID-19 infection both because of the high viral load in the upper airways and because of the asymptomatic presentation of COVID-19 disease. Special focus is needed for managing the balance between appropriate patient care and ensuring the safety of healthcare workers. Adequate preparation and modification of the procedures for bleeding control to minimize risk of spread is necessary. While managing, attention should be kept on less invasive methods with avoidance of aerosol-generating activities. Nonetheless, proper use and disposal of personal protective equipment is of utmost importance in stopping the spread of COVID-19.

KEYWORDS: epistaxis, COVID-19, management.

INTRODUCTION

Epistaxis or nosebleed is a very common condition encountered in the Ear-Nose-Throat Emergency Department (ED). Management of the nasal bleeding is a high-risk procedure for the healthcare workers during the ongoing COVID-19 pandemic. Also, with active nasal bleeding, it is difficult to collect nasopharyngeal/oropharyngeal swabs for virus detection and therefore SARS-CoV-2 detection may be delayed unwillingly. Latest analysis by Amnesty International published in early September 2020 suggests over 7000 healthcare providers (HCPs) worldwide (out of which 573 in India) had succumbed to COVID-19[1].

The first priority in nasal bleeding is to control bleeding in the nasal cavity where the viral load is also very high[2]. Adequate personal protective equipment (PPE) should be used during emergency care of nosebleed to stop this chain of infection in HCPs.

Through this article, we aim to provide recent experiences available and modifications suggested for managing epistaxis in the current scenario of COVID-19 pandemic.

INITIAL CLINICAL ASSESSMENT

Most of the health facilities nowadays screen patients for COVID-19 with temperature check and questioning about symptoms, at the entrance. It is advisable to ensure strict use of masks by all the patients wherever possible. A separate COVID care zone or a referral method to such a facility is desirable. Any patient with positive COVID-19 status must ideally be managed in a COVID-19 designated facility, whereas others having epistaxis should be handled using adequate PPEs in ED.

There is routine practice of using N95 mask for standard airborne precaution. However, suggestions are being made to use enhanced PPE while performing activities, including nasal packing and endoscopy that could generate a large quantity of aerosols. These suggestions include the use of N99 or 100 mask and HEPA (High efficiency particu-

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late air) filters[3,4]. In such cases, the use of a N95 mask may not be sufficient as the large number of viral particles may penetrate it. N99 and 100 masks, respectively, filter out 99% and 99.97% of particles of 0.3µm in size. HEPA filters are equivalent to the N100 respirator. Thus, these are more effective than N95.

Once hemodynamic stability is ensured, the cause of the bleeding can be explored.

IDENTIFYING THE CAUSE OF EPISTAXIS

Various risk factors of epistaxis associated with COVID-19 include forceful nasal blow by the patient, attempting to clear nasal congestion, anticoagulant prophylaxis used as standard of care to prevent thromboembolism in COVID-19 patients, different modes to deliver Oxygen including nasal cannula, continuous positive airway pressure (CPAP) and oxygen masks. Often, those cases with COVID-19 requiring hospitalisation have underlying comorbidities, such as chronic kidney disease (CKD), chronic liver disease (CLD), coronary artery disease (CAD) (taking antiplatelets) which can increase the risk for coagulopathy and nasal bleeding. All these should be ruled out before searching for other causes.

In a case series of 104 hospitalized COVID-19 patients, Dell'Era et al.[5] observed that 30 patients developed spontaneous epistaxis. These patients were at increased risk due to components of standard care including use of nasal cannula or continuous positive airway pressure and low molecular weight heparin. They suggested the use of nasal lubricant that prevents crust formation and avoids nosebleed[5].

BLEEDING CONTROL

Recent guidelines advocate preferring less invasive methods initially and avoiding steps that generate aerosols, to reduce the risk of COVID-19 spread[6]. Previous studies suggest that using a surgical mask on the patient's face can significantly reduce the blood aerosol concentration while nasal packing[7,8]. It may not always be practical but should be preferred whenever possible. Nasal compression by pinching the lower third of the nose for 10 minutes can be achieved by the patient. Use of suction over pincer is not preferable, due to aerosol generation. At this point, an oropharyngeal/nasopharyngeal swab can be collected for viral testing, if not performed earlier. Continued anterior nosebleed can be stopped by cauterization using silver nitrate or electrocautery. Studies have suggested a better therapeutic outcome and less recurrence with cautery as compared to silver nitrate; however, because it is cheaper and more accessible, silver nitrate is used more often[1,9].

Nasal balloons, tampons or absorbable nasal packs have been preferred. The use of non-absorbable packing should be discouraged as its removal increases aerosolization and has potential to damage the nasal mucosa[10,11]. It is desirable to get RT-PCR for SARS-CoV-2 of any patient before entering the operating room (OR). However, due to the high rate of false negative results early in the course, all adequate precautions, including minimal staffing in the OR, should be followed for all such patients[12]. A study by Workman et al. found significant aerosol generation during endoscopic cauterization[13]. Taha et al. in their study on patients presenting to ED and intensive care unit (ICU) observed zero transmission rate of COVID-19 among healthcare workers over a period of 5 weeks, even among those performing nasal endoscopy. They followed the protocol of using enhanced PPE including P100 filters, protective eyeglasses, surgical scrubs and surgical gloves by the healthcare workers. They also used video monitor instead of direct eyepiece for endoscopic visualization to avoid possible proximity with COVID-19 patients[14].

It is expected that the most experienced person in the team should assess and decide any need for endoscopy for nasal bleed control.

Keeping in view these findings, some well-equipped centers have started preferring embolization rather than endoscopic procedures for managing posterior epistaxis during the current pandemic[11].

Earlier, suggestions have been made to consider it only if the patient has failed endoscopic surgery or has procedural contraindications for endoscopy[15]. Lastly, post procedure, doffing of the PPE kit should be cautiously done, following guidelines; proper disposal and decontamination are important for breaking the chain of spread of infection[16].

CONCLUSIONS

While managing epistaxis, healthcare providers are exposed to the upper airways of the patients, that could harbour a high concentration of SARS-CoV-2. Patients presenting to ED with epistaxis should be managed using adequate PPE irrespective of COVID-19 status. Protection and safeguard of HCPs is very important not only from an economic standpoint, but also from the mitigation of pandemic and resuming routine healthcare points of view.

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