Letter to the Editor

Severe epistaxis in patients on extracorporeal membranous oxygenator support occurrence and management

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We would like to thank Dr. Mazzeffi and colleagues (1) for the comments on our recently published article entitled "Extra corporeal membrane oxygenation (ECMO) review of a lifesaving technology" (2), as well as reporting their own data regarding severe epistaxis during ECMO support. We agree that bleeding is a frequently encountered complication during ECMO support with reported rates ranging from 10-30%. Bleeding may also occur at surgical sites, cannula sites, or sites of previous invasive procedures. Intrathoracic, abdominal, or retroperitoneal hemorrhage may also occur (2). Case reports of epistaxis associated with ECMO support have been seen in the literature (3,4). Harrison *et al.* (5) reported 11 patients (30% of all their ECMO series) with aerodigestive bleeding. Among these, seven patients experienced nose or nasopharyngeal bleeding and a total of eight patients needed nasal packing.

We did review our series of 207 patients supported by ECMO in the last 3 years and these included 88 venoarterial ECMO (VA ECMO) and 119 venovenous ECMO (VV ECMO). Five (2.4%) patients experienced severe epistaxis similar to that reported by Dr. Mazzeffi. Among these, four patients developed nasal or nasopharyngeal bleeding requiring nasal packing ranging from 3-9 days. The fifth patient had nasal bleeding attributed to instrumentation and trauma from feeding tube insertion and had the bleeding cauterized with silver nitrate. All patients were followed and managed by an otolaryngologist. The anticoagulation was stopped for 6 to 24 hours to control the bleeding along with nasal packing. Packing was changed every 2-3 days until bleeding was stopped.

Epistaxis could be idiopathic or related to nasal anatomy associated with underlying medical conditions attributing to its evolution. Other causes of epistaxis include: (I) use of systemic anticoagulation; (II) thrombocytopenia and platelet dysfunction either due to medications such as aspirin or renal failure; (III) clotting factor hemodilution; (IV) instrumentation and trauma; (V) von Willebrand deficiency.

The management of severe epistaxis should include; otolaryngologist consultation, stopping the anticoagulation for at least 6 to 24 hours, packing which should be changed every 2-3 days until bleeding has ceased, and correcting severe coagulopathy like thrombocytopenia and von Willebrand deficiency.

In summary, we agree with Dr. Mazzeffi and colleagues, that epistaxis is a serious and underestimated complication of ECMO support.

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Footnote

Conflicts of Interest: The authors have no conflicts of interest to declare.

References

1. Mazzeffi M, Kiefer J, Kon Z, et al. Severe epistaxis during adult extracorporeal membrane oxygenation: not your average nosebleed. J Thorac Dis 2015;7:E564-5.
2. Makdisi G, Wang IW. Extra Corporeal Membrane Oxygenation (ECMO) review of a lifesaving technology. J

Thorac Dis 2015;7:E166-76.
3. Fuehner T, Kuehn C, Hadem J, et al. Extracorporeal membrane oxygenation in awake patients as bridge to lung transplantation. Am J Respir Crit Care Med 2012;185:763-8.
4. Olsson KM, Simon A, Strueber M, et al. Extracorporeal membrane oxygenation in nonintubated patients as bridge to lung transplantation. Am J Transplant 2010;10:2173-8.
5. Harrison MA, Baker AL, Roy S, et al. Management of upper aerodigestive tract bleeding on extracorporeal membrane oxygenation. Mechanical Circulatory Support 2013;4:20333.

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