Commentary: Useful little trick

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Not long ago, the senior author (P.E.) was having a conversation with Professor Ivan Rebeyka regarding “little tricks” that surgeons use but do not publish. Dr Rebeyka shared a story about how Dr Norwood used such a trick when operating to increase his efficiency. He would take a couple of bites and then, with his pick-ups, hold the tissue down and pull on the sutures to tighten the suture line, not spending as much time pulling up the follow after every bite. These little tricks can be useful to the craft of surgery and are not captured in the published literature.

In this issue of the *Journal*, Kang and colleagues¹ offer such a trick. They provide a practical description to aid in safely obtaining arterial access for cardiac catheterization for infants on venoarterial extracorporeal membrane oxygenation (ECMO). Often, in part because of the ease of access, the femoral route is chosen for cardiac catheterization in these sick patients, although this choice is not without its associated risks. Despite the risks, for pediatric patients supported by ECMO, when a cardiac catheterization is necessary, it can be performed successfully with an acceptable complication rate.^{2,3}

Having an alternative method for arterial access, however, in what are undoubtedly very sick infants, would be a very useful adjunct. Kang and colleagues¹ describe 3 cases in which infant cardiac catheterization was conducted through the arterial cannula while the patient was on ECMO support by connecting a Y-shaped connector with a hemostatic valve to the arterial limb of the ECMO cannula. Similar techniques have been described in adult patients with the femoral arterial cannula.^{4,5} Further, this technique has been used in pediatric patients, again through the femoral arterial cannula.⁶ Kang and colleagues¹ describe the first utilization of this technique with a similar set of adapters in neonates and small infants who are cannulated through the carotid artery. Although their report is similar to other, Kang and colleagues¹ notably demonstrate the safety of this technique in children less than 5 kg in weight. In addition, the position of the arterial cannula in the right common carotid artery provided a favorable angle for select procedures (eg, intervention on

Jacob R. Miller, MD (left), and Pirooz Eghtesady, MD, PhD (right)

Central Message

Cardiac catheterizations performed on infants can be difficult, even more so if the patient is supported by ECMO. With some ingenuity, a carotid arterial cannula can be used for arterial access.

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systemic-to-pulmonary arterial shunts or associated branch pulmonary arteries, assessment of coronary arteries). Theoretically, their methodology could be adapted for other situations, such as central cannulation. Similarly, access on the venous side could be obtained, although this would introduce the risk of air embolism.

Although this article may not represent the first time that this has been successfully performed, or even described, Kang and colleagues¹ do provide an excellent resource for others planning to use this technique. What it may lack in originality, it makes up for in practicality. Kang and colleagues¹ expound nicely on possible uses and provide a nice video to describe the technical details, ever important for the clinician who may want to apply this methodology.

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