

Peripheral Catheters Placed in Atypical Locations

Question:

We are now seeing a greater number of patients with extremely limited peripheral venous access sites and many physicians are insisting on using superficial veins of the chest, breast, and abdomen. Many physicians are also giving orders to use the feet in adults. Is it acceptable to use veins in these locations? If not, why?

Answer:

Use of veins in the feet of adults can increase the risk of complications like deep vein thrombosis. Perforating veins connect superficial veins to deep vein and there are a greater number of perforating veins in the feet and legs. The presence of phlebitis and thrombosis can quickly become a systemic problem if they reach the large deep veins of the lower extremities. IV sites in the leg will hamper the patient's ability to ambulate, thus slowing their progress toward discharge. Appropriate placement of either a midline catheter or PICC will provide a safer route for infusion therapy.

Visible superficial veins on the chest, shoulder, breasts, or abdomen are not recommended for infusion on a routine basis either. These veins are not splinted like bones naturally splint the veins in the arm. Body movement will easily distend these veins, making them more difficult to puncture.

Frequently, we find chest veins to be engorged and easily accessible, but this leads to the big question of why? There has to be a pathophysiological reason for these prominent veins and usually this is thrombosis or some other type of obstruction in the large deep veins of the thorax, shoulder and upper extremity. These engorged superficial veins are usually small, tortuous and not suitable for infusion.

I would imagine that you see orders for use of these veins in patients with serious diseases such as sickle cell anemia or other chronic illnesses. In an emergency, you may not have a choice to use these chest veins for a very short duration. Immediate pain management during a sickle cell crisis or hypoglycemia in a diabetic may demand the need to use these veins when sites in the upper extremity cannot be found. This approach, however, should never be only as a last resort in emergency situations.

These patients need a better approach to their vascular access needs. For difficult peripheral access, ultrasound or other imaging technology may increase the number of available sites over the sites that can be found by palpation and landmark techniques. A long-range approach is required. Rather than concentrating only on how to get a catheter into a vein for the immediate dose of drug, someone must be assessing the patient's infusion history and his or her future needs. A long-term device such as an implanted port may be more appropriate for these patients, avoiding the need for crisis situations and the pressure to use superficial veins of the chest.

This article was originally published in the Catheter Connection column of the Journal of Vascular Access Devices. For more information about the Association of Vascular Access, visit <http://www.avainfo.org>