

identify the exact cause of a problem such as vaginal spotting. If the patient is not bleeding heavily and a viable intrauterine pregnancy is visualized on bedside ultrasound, then any of the other etiologies for minor vaginal bleeding such as a cervical polyp may be safely left to the patient's primary obstetric provider for diagnosis. In many instances, it may even be better to have these types of diagnoses made by clinicians who are better prepared to manage a woman's longitudinal care. It is also very unlikely that a lubricated transvaginal ultrasound probe would induce severe bleeding from an occult cervical cancer. If such a lesion was in fact predisposed to significant hemorrhage from such minor trauma, then bleeding would be just as likely to occur after placement of a speculum or after bimanual examination. We agree that Papanicolaou tests can be performed on any patient undergoing a pelvic examination, pregnant or not. However, the impact of specific sampling techniques on results, the counseling needed for abnormal findings, and the required robustness of a follow-up system make this a test that few EDs feel comfortable incorporating into their routine care of women presenting to the ED with genital concerns.

Amanda Seymour PA-C
 Alfred Sacchetti MD
*Our Lady of Lourdes Medical Center
 Emergency Medicine
 Camden, NJ 08103, USA*
 E-mail address: sacchetti1011@gmail.com

doi:10.1016/j.ajem.2010.03.026

Four cases of inadvertent arterial cannulation despite of ultrasound guidance

To the Editor,

We read with great interest the publication by Stone et al [1] in the recent issue of the journal about the ultrasound detection of guidewire position for avoiding arterial guidewire placement. They demonstrated that guidewire visualization within the jugular vein predicted venous catheter placement with a sensitivity and specificity of 100% and 100%, respectively, in all 20 adult patients. As the author discussed, the use of real-time ultrasound guidance decreases complication, especially arterial puncture [2]. We are also confirming the venous placement of the wire in all cases using ultrasound sonography.

Recently, we encountered 4 cases of inadvertent arterial cannulation [3]. All procedures were performed after

confirming the stria of internal jugular vein with ultrasound, and the puncture of the final case was performed under real-time ultrasound guidance. The vein was exactly punctured, and the existence of guidewire in the vein was confirmed with sonography at the pierced site. However, the guidewire might be migrated into carotid artery through the posterior vessel wall of internal jugular vein, and subsequent large-bore cannulation injured the artery at the proximal site. This risk was well documented by Blaivas and Adhikari [4]. They investigated the frequency of posterior vessel wall penetration by the needle during attempts to place central venous catheters with ultrasound imaging, and 64% of residents accidentally penetrated the posterior wall of the vein during cannulation.

We believe that the most important technique of real-time ultrasonographically guided catheterization might be visualization of both the vein and entire needle, especially the point of needle, in the same plane at the puncture [3]. The top of needle should be in the internal jugular vein completely. After the placement of guidewire, the confirmation of accurate placement would be difficult and the possibility of migration to the artery never be eliminated. At least, our experience reduced the sensitivity and specificity demonstrated by Stone et al [1].

Yushi U. Adachi MD, PhD
*Department of Anesthesia and Resuscitation
 Hamamatsu University School of Medicine
 Hamamatsu-city, Shizuoka, 431-3192, Japan*
 E-mail address: yuadachi@hama-med.ac.jp

Shigehito Sato MD, PhD
*Hamamatsu University School of Medicine
 Hamamatsu Shizuoka 431-3192, Japan*

doi:10.1016/j.ajem.2010.03.029

References

- [1] Stone MB, Nagdev A, Murphy MC, Sisson CA. Ultrasound detection of guidewire position during central venous catheterization. *Am J Emerg Med* 2010;28:82-4.
- [2] Leung J, Duffy M, Finckh A. Real-time ultrasonographically guided internal jugular vein catheterization in the emergency department increases success rates and reduces complications: a randomized, prospective study. *Ann Emerg Med* 2006;48:540-7.
- [3] Kawashima S, Ishii Y, Itagaki T, Taniguchi M, Adachi Y, Sato S. Four cases of an inadvertent arterial cannulation with large bore catheters. *J Clin Anesth (Jpn)* 2009;33:1939-41 Japanese with English abstract.
- [4] Blaivas M, Adhikari S. An unseen danger: frequency of posterior vessel wall penetration by needles during attempts to place internal jugular vein central catheters using ultrasound guidance. *Crit Care Med* 2009;37:2345-9.