

(Integrative Biology: Nuclear Dynamics, Regenerative and Translational Medicine) funds ANR-10-LABX-0030-INRT, a French state fund managed by the National Research Agency (Paris, France) under the frame program “Investissements d’Avenir” labeled ANR-10-IDEX-0002-02.

Competing Interests

The authors declare no competing interests.

Thiên-Nga Chamaraux-Tran, M.D., H  l  ne Beloeil, M.D., Ph.D. Institute of Genetics and Molecular and Cellular Biology (IGBMC) Illkirch, France (T.-N.C.-T). chamarau@igbmc.fr

References

1. Xing W, Chen D-T, Pan J-H, Chen Y-H, Yan Y, Li Q, Xue R-F, Yuan Y-F, Zeng W-A: Lidocaine induces apoptosis and suppresses tumor growth in human hepatocellular carcinoma cells in vitro and in a xenograft model in vivo. *ANESTHESIOLOGY* 2017; 126:868–81
2. Lin LW, Lin XY, He YM, Gao SD, Xue ES, Lin XD, Yu LY: Experimental and clinical assessment of percutaneous hepatic quantified ethanol injection in treatment of hepatic carcinoma. *World J Gastroenterol* 2004; 10:3112–7
3. Watanabe S, Morishita A, Deguchi A, Nakai S, Sakamoto T, Fujita K, Maeda E, Nomura T, Tani J, Miyoshi H, Yoneyama H, Fujiwara S, Kobara H, Mori H, Himoto T, Masaki T: Ethanol injection therapy for small hepatocellular carcinomas located beneath a large vessel using a curved percutaneous ethanol injection therapy needle. *Oncol Lett* 2014; 7:1831–4
4. Yang B, You X, Yuan ML, Qin TQ, Duan LJ, He J, Fei ZJ, Zhou X, Zan RY, Liao ZY: Transarterial ethanol ablation combined with transarterial chemoembolization for hepatocellular carcinoma with portal vein tumor thrombus. *Hepat Mon* 2016; 16:e37584

(Accepted for publication November 2, 2017.)

In Reply:

We thank Chamaraux-Tran and Beloeil for their letter and concern about our article.¹ Since the lidocaine used in our experiment was water soluble, ethanol was not required as a solvent. Therefore, there was no effect of ethanol in our experiment.

Competing Interests

The authors declare no competing interests.

Wei Xing, M.D., Ph.D., Dong-Tai Chen, M.D., Jia-Hao Pan, M.D., Yong-Hua Chen, M.D., Yan Yan, M.D., Qiang Li, M.D., Rui-Feng Xue, M.D., Yun-Fei Yuan, M.D., Wei-An Zeng, M.D., Ph.D. Sun Yat-Sen University Cancer Center, Guangzhou, China (W.-A.Z.). zengwa@mail.sysu.edu.cn

References

1. Xing W, Chen D-T, Pan J-H, Chen Y-H, Yan Y, Li Q, Xue R-F, Yuan Y-F, Zeng W-A: Lidocaine induces apoptosis and suppresses tumor growth in human hepatocellular carcinoma cells in vitro and in a xenograft model in vivo. *ANESTHESIOLOGY* 2017; 126:868-81

(Accepted for publication November 2, 2017.)

Distal Subclavian Cannulation and Extravasation

To the Editor:

In reading “Examining the Edges of Extravasation”¹ I noticed that the subclavian catheter enters the skin quite laterally. A more lateral cannulation often tunnels through the pectoral musculature, the tail of the breast in a female patient, and a thicker portion of adipose tissue than would a more medially placed catheter. These structures are mobile and allow for the distance from the skin to the vessel to change as patients are positioned, bathed, perform physical therapy, or move of their own volition. Such motion may result in a significant portion of the proximal catheter, and thus the proximal port, leaving the vessel and causing the subsequent extravasation.

The authors do not specify the method of cannulation, but a subclavian catheter that is placed *via* landmarks is usually located quite medially while a more lateral approach is preferred with the use of ultrasound guidance so that the vein is not in the shadow of the clavicle. Technically, ultrasound guidance often results in cannulation of the axillary vein rather than the subclavian vein proper. A systematic review and meta-analysis² and a prospective study³ of ultrasound guidance for subclavian cannulation concluded that ultrasound guidance reduced the frequency of complications, such as artery puncture and hematoma, hemothorax, pneumothorax, and nerve injury relative to internal jugular vein cannulation. Ultrasound is also a means to check for a pneumothorax without the costs associated with a traditional chest roentgenogram. Although the ultrasound technique does purport many benefits, Bronshteyn and Bittner's case demonstrates one specific complication that can also occur with a more lateral cannulation, such as often occurs with the use of ultrasound guidance.

Competing Interests

The author declares no competing interests.

Brian T. Gierl, M.D., University of Pittsburgh School of Medicine, Pittsburgh, Pennsylvania. Gierlbt2@upmc.edu

References

1. Bronshteyn YS, Bittner EA: Examining the edges of extravasation. *ANESTHESIOLOGY* 2017; 126:716
2. Lalu MM, Fayad A, Ahmed O, Bryson GL, Fergusson DA, Barron CC, Sullivan P, Thompson C; Canadian Perioperative Anesthesia Clinical Trials Group: Ultrasound-guided subclavian vein catheterization: A systematic review and meta-analysis. *Crit Care Med* 2015; 43:1498-507
3. Fragou M, Gravvanis A, Dimitriou V, Papalois A, Kouraklis G, Karabinis A, Saranteas T, Poularas J, Papanikolaou J, Davlouros P, Labropoulos N, Karakitsos D: Real-time ultrasound-guided subclavian vein cannulation *versus* the landmark method in critical care patients: A prospective randomized study. *Crit Care Med* 2011; 39:1607-12

(Accepted for publication November 2, 2017.)

This letter was sent to the author of the original article referenced above, who did not respond.—Evan D. Kharasch, M.D., Ph.D., Editor-in-Chief.