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동정맥루 지도초음파에서 정맥증대법

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Vein Augmentation Method in Arteriovenous Fistula Mapping Sonogrpahy

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Purpose: Arteriovenous fistula (AVF) mapping sonography is a useful method to choose a proper vein for creation of AVF. However, the conditions of superficial vein of arm in the patients with end stage renal disease are generally poor. Therefore, we often have trouble in looking for the superficial vein of arm by ultrasonography. The vein augmentation method has been generally used in the diagnosis of deep vein thrombosis or venous valve dysfunction. We modified the vein augmentation method and aimed to evaluate the usefulness of it for identifying the superficial vein in AVF mapping sonography.

Methods: The vein augmentation method is as follows. First, the examiner squeezes the above part of arm which is supposed to be evaluated. Next, the examiner observes artery and veins showing blood flow on power doppler ultrasonography. Finally, the examiner releases the grip and observes the newly appearing vessel (Fig. 1). The newly appearing vessel includes superficial veins such as cephalic and basilic veins.

Results: Fig. 2A shows the ultrasonographic finding of left forearm being squeezed on power doppler sonography, in which we could identify a radial artery and nearby deep veins. Then, when we released the grip, we could identify the newly appearing vessel on the upper right corner which indicated the cephalic vein (Fig. 2B).

Conclusion: We have tried to perform the vein augmentation method in AVF mapping sonography of several people. In conclusion, we believe that this method is simple to apply and useful to find the superficial vein for AVF mapping sonography even in the patients with poor vein conditions.

Key Words: 동정맥루, 초음파, 증대
Arteriovenous fistula, Ultrasonography, Augmentation

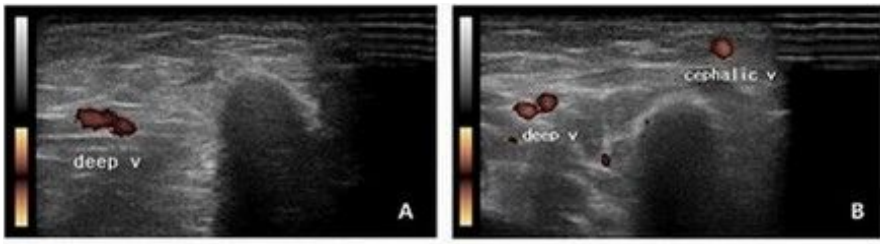

Fig.2. Power doppler findings when the arm was squeezed (A), and released (B)

Fig.1. The examiner squeezes the arm like this and then releases the grip.