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# Point of Care Ultrasound Diagnosis of Lymphocele of an Upper Extremity Arteriovenous Dialysis Graft

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**Case Study:** Point of care ultrasound(POCUS) is rapidly evolving as a valuable bedside diagnostic tool ,especially in the hemodialysis setting. Herein, we demonstrate a case of a 79-year old man who presented with a progressively enlarging mass 4weeks in the surgery for arteriovenous graft creation at the site of surgery in the right upper arm.

A 79-year-old man with a history of hypertension, Parkinson's disease and end stage renal disease started hemodialysis 3 months ago through a permanent catheter located in the right internal jugular vein.

The right brachio-axillary, 6mm, expanded polytetrafluoroethylene (ePTFE) AVG was placed 1 month prior. Physical examination of the right upper arm showed localized mass at the anastomosis of the AVG with a continuous bruit. (Figure 1) The patient did not complain of redness, tenderness and heating sensation in the localized mass. POCUS including measurement of blood flow rate of brachial artery was immediately performed. POCUS revealed a fluid-filled round structure with mixed echogenicity pattern. It was measured about 4.1x1.5x1.9cm at arterial and 4.9x1.9x1.8cm at venous anastomosis, respectively. There was no occlusion in the brachial artery or outflow tract. Lymphocele, one of the rare complications, is difficult to accurately distinguish from other noninfectious fluid collections by ultrasound. We diagnosed lymphocele by observing the continuous movement of fluid in the mass through B-mode images. We performed repeated POCUS without any special treatment and observed that the size of the lymphocele decreased and completely resolved in 3 months. (Fig 2)

Diagnosis through repeated POCUS can reduce unnecessary intervention. Therefore, repeated POCUS plays an important role in diagnosis as well as decision-making treatment in clinical practice.