

인조동정맥루의 드문 합병증: Graft와 자가혈관 사이 누공에 의한 혈전증

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A Case of Rare Complication of an Arteriovenous Graft: Graft Thrombosis Related to Fistula Formation between the Graft and Natural Vein in the Setting of Graft Infection

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We recently experienced an unusual case of an arteriovenous graft complication involving graft thrombosis related to fistula formation between the graft and natural vein in the setting of graft infection. A 63-year-old man on maintenance hemodialysis (HD) visited the emergency room for fever and arteriovenous graft (AVG) malfunction. He underwent AVG with a 6-mm PTFE in his left upper extremity (brachial artery-axillary vein straight type) 23 months prior. Doppler ultrasound (US) identified an abscess around the graft in the antecubital area and a fistula between the AVG and the natural cephalic vein at the arterial needle puncture level of the AVG. The connected cephalic vein ran parallel to and just under the AVG and was dilated to 6.9-13 mm in diameter. The superior aspect of the post-fistula graft was occluded with thrombus, as shown in Fig. 1. We then noticed that bruit and thrill felt weakly over the upper arm for the first time were came from the underlying dilated cephalic vein. Computed tomography (CT) angiography showed the same findings more clearly. He was diagnosed with graft thrombosis related to fistula formation between the graft and natural vein, and sepsis caused by AVG infection. In surgical exploration, we identified a 2-mm-sized fistula between the posterior wall of the graft and the underlying cephalic vein. Partial graft excision from the arterial anastomosis site immediately distal to the fistula and removal of infected tissue were performed. We created a new autogenous AVF by anastomosing the natural dilated cephalic vein to the lower level of the brachial artery(end-to-side anastomosis). We expect the newly formed AVF will soon be functional because the cephalic vein already matured, and the flow is greater than 1400 ml/min as measured by US Doppler on the seventh day post-op. We report this unusual experience of AVG thrombosis related to fistula formation between a graft and natural vein in the setting of AVG infection treated with surgery by creating a new AVF with the inadvertently dilated cephalic vein. We believe Doppler US and CT angiography are suitable noninvasive modalities to diagnosis fistula formation.

Key Words: 혈액투석, 동정맥루
Hemodialysis, AVG,
Fistula between graft and vein

