Abstract:

Purpose: To assess the value of Multi-Detector Computed Tomography Venography (MDCTV) in the assessment of tunneled hemodialysis central vein catheters (CVCs) dysfunction.

Methods: Twenty-five patients who had tunneled CVC dysfunction without abnormality found by x-ray and ultrasound were enrolled. Anti-platelet agents, anticoagulants, and thrombolytic therapy with urokinase failed to resume normal catheter function. MDCTV was performed to observe the position of catheters and to detect central venous stenosis, thrombosis, and fibrin sheath formation. Correct intervention was given according to MDCTV results.

Results: MDCTV revealed that the catheter was malpositioned in 10 cases; there were five cases of central venous stenosis, four cases of central venous thrombosis, one case of fibrin sheath formation, and the other five had no abnormalities found. Blood flow on hemodialysis had reached over 300 mL/min after correct intervention.

Conclusions: MDCTV provided a new possible way to assess dysfunction of tunneled hemodialysis central venous catheters.