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Management of Ischemic Stroke in Patients with CKD

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The prevalence of chronic kidney disease (CKD) has increased significantly over the past decades. Due to its high comorbidity with other diseases, CKD patients are at an elevated risk of experiencing strokes.

Managing acute strokes in CKD patients presents a considerable challenge. Intravenous tissue plasminogen activator (IVT) is associated with a higher risk of symptomatic hemorrhage and poorer neurological outcomes in CKD patients compared to those without CKD. However, IVT remains an effective treatment option for CKD patients presenting with acute stroke within 4.5 hours of onset. Although data are currently limited, endovascular thrombectomy (EVT) is also considered a reasonable treatment for CKD patients with large vessel occlusion during the acute phase.

Malignant brain edema can develop following an acute ischemic stroke if a large ischemic core persists. In such cases, hyperosmotic fluids may be administered to CKD patients; however, careful monitoring of blood electrolytes and osmolarity is essential throughout the treatment course. For patients with end-stage kidney disease (ESKD), the use of mannitol should be avoided in those undergoing peritoneal dialysis, as it may still exacerbate brain edema.

This talk aims to present current evidence and guideline recommendations for managing acute strokes and brain edema in CKD patients.

