

A Recurring neurorenal affair; Post Chronic Kidney Disease stroke

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Madam, The inability to speak, see, and move, medically known as aphasia, visual loss, and limb paralysis respectively, are well-known manifestations caused by inadequate blood supply or oxygen to the brain, leading to a condition known as Stroke. It is a major global health concern, and Pakistan is estimated to have 250 cases of Stroke annually per 100,000 population¹. Multiple known risk factors such as hypertension, diabetes, old age, myocardial infarction and chronic kidney disease contribute (CKD) to such high incidence. CKD is defined as kidney impairment or less than 60 mL/min/1.73 m² of glomerular filtration rate (GFR) for three months or longer. In 2021, CKD was established as an independent risk factor for stroke by Melaine and colleagues.²

Further supporting the link between Stroke and CKD, a new recent study by Ueki et al. published in *STROKE* shows that the functional dysfunction of the kidney (eGFR) and the kidney damage (proteinuria) caused by CKD are associated both independently and synergistically with increased risk of not one-time but recurrent strokes. Out of 12576 enrolled stroke patients, 20% (2481 patients) who developed CKD suffered from recurrent Strokes.³. This raises significant concern, particularly in Pakistan, where there is only 1 neurologist per 1 million population¹

The decreased number of specialists is not the only reason why this study raises a cause of concern. With only 10 Stroke care units and just 6 out of them offering intravenous thrombectomy, managing Stroke is already a challenge. Pakistan unfortunately, also suffers from decreased availability of alteplase, an expensive drug required for timely management of Stroke leaving mechanical thrombectomy as the possible treatment option, which is again only offered at 4 hospitals.¹

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But what can be done to tackle this impending burden? The answer is prevention. In addition to the evident solution of increasing the number of stroke care facilities and improving the availability of alteplase, Transcranial Dopplers (TCD) can be utilized as a non-invasive screening test to monitor brain health in CKD patients⁴. People need to be made more educated on taking better control over their health by being compliant with medications if suffering from hypertension or diabetes, the two major risk factors of CKD. An integrative strategy should be employed, bringing nephrologists, neurologists, and patients together at one table to discuss the next steps and optimize stroke prevention and management.

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