

Endovascular thrombectomy for treatment of acute ischaemic stroke: A double-edged sword?Raafey Imran¹, Hamza Motahir², Muhammad Shahbaz³

Pakistan has a significant burden of stroke patients, with a recent study from KPK demonstrating a prevalence of 1.2%. Of the major risk factors obesity, hypertension, and smoking were identified in 38.8%, 21.9% and 6.6%, of patients respectively.¹ Strokes are the second leading cause of death in Pakistan, with the latest the World Health Organization WHO data showed that it caused 9.69% of total deaths.² Global trends indicate an increase in the incidence of stroke, along with disability adjusted life years from 1990 to 2020, with the incidence rate being predicted to further increase by the year 2030.³

Numerous techniques are emerging for management of patients with stroke, including endovascular thrombectomy, a procedure which involves the insertion of a catheter into an arterial vessel, which is then guided to the point of the blocked artery in the brain thereby removing the clot. Endovascular thrombectomy is associated with better functional independence compared to medical intervention, group according to Sarraj et al. Greater functional independence was seen at 20.3% in the thrombectomy group compared to 7.0% in the medical care group. Independent ambulation was reported as 37.9% in the thrombectomy group while the medical care group reported it by nearly half at 18.7%.⁴

However, endovascular thrombectomy is not the magic bullet for stroke treatment as it seems, as the procedure poses significant risks. There is a considerable risk for symptomatic intracerebral haemorrhage which has shown a positive association with diabetes mellitus and high blood pressure, both of which are present at a very

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significant level in the Pakistani population.⁵ Moreover, endovascular thrombectomy results in much greater early neurological worsening, with 44 patients from the thrombectomy group and 27 patients from the medical intervention group having experienced this event.⁴ Early neurological worsening has been associated with worse functional outcomes by day 90. Therefore, caution is advised before providing endovascular thrombectomy as a treatment option, because of the greater risk of treatment-emergent adverse effects. Further trials are required specifically on the Pakistani population, to better assess the safety and efficacy of endovascular thrombectomy as a treatment option.

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References

1. Sherin A, Ul-Haq Z, Fazid S, Shah BH, Khattak MI, Nabi F. Prevalence of stroke in Pakistan: Findings from Khyber Pakhtunkhwa integrated population health survey (KP-IPHS) 2016-17. *Pak J Med Sci* 2020;36:1435-40. doi: 10.12669/pjms.36.7.2824.
2. World Life Expectancy Com. Pakistan: Stroke. [Online] 2020 [Cited 2025 May 15]. Available from URL: <https://www.worldlifeexpectancy.com/pakistan-stroke>
3. Pu L, Wang L, Zhang R, Zhao T, Jiang Y, Han L. Projected Global Trends in Ischemic Stroke Incidence, Deaths and Disability-Adjusted Life Years From 2020 to 2030. *Stroke*. 2023;54:1330-9. doi: 10.1161/STROKEAHA.122.040073.
4. Sarraj A, Hassan AE, Abraham MG, Ortega-Gutierrez S, Kasner SE, Hussain MS, et al. Trial of Endovascular Thrombectomy for Large Ischemic Strokes. *N Engl J Med* 2023;388:1259-71. doi: 10.1056/NEJMoa2214403.
5. Chen JH, Hong CT, Chung CC, Kuan YC, Chan L. Safety and efficacy of endovascular thrombectomy in acute ischemic stroke treated with anticoagulants: a systematic review and meta-analysis. *Thromb J* 2022;20:35. doi: 10.1186/s12959-022-00394-y.

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