

Treatment Strategies for Tandem Vascular Occlusion: The Role of Bridging Therapy

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Description

In recent years, the management of acute ischemic stroke caused by Tandem Vascular Occlusion (TO) has been a subject of significant interest and debate within the medical community. Tandem occlusions, involving both proximal extracranial and distal intracranial vessels, present unique challenges in treatment, and the optimal therapeutic approach remains a topic of investigation. Among the various strategies explored, the combination of Intravenous Thrombolysis (IVT) and Endovascular Therapy (EVT), known as bridging therapy, has emerged as a promising option. A comprehensive analysis of 15 studies, encompassing a total of 1857 patients, sheds light on the comparative effectiveness of bridging therapy versus direct EVT (dEVT) alone for TO in the anterior circulation. The findings from this analysis provide valuable insights into the clinical outcomes associated with these treatment modalities. One of the key observations from the analysis is the significantly better 90-day functional outcomes among patients receiving bridging therapy compared to those undergoing dEVT alone.

Bridging therapy

This improvement in functional status, as evidenced by a higher proportion of patients achieving a Modified Rankin Scale (MRS) score of 0-2, underscores the potential benefits of incorporating IVT into the treatment regimen for TO. Moreover, bridging therapy was associated with a lower 90-day mortality rate compared to dEVT alone. This reduction in mortality highlights the importance of early reperfusion achieved through the combined approach of IVT and EVT, potentially leading to improved survival outcomes for patients with TO. Additionally, bridging therapy demonstrated superior recanalization rates, indicating more effective restoration of blood flow to the occluded vessels. Successful recanalization is crucial for salvaging ischemic brain tissue and minimizing the extent of neurological damage associated with acute ischemic stroke.

Despite these favorable outcomes, it is noteworthy that there was no significant difference in the incidence of symptomatic Intracranial Hemorrhage (sICH) between the two treatment groups. This suggests that the addition of IVT to EVT does not increase the risk of hemorrhagic complications, providing reassurance regarding the safety profile of bridging therapy. In conclusion, the findings from this analysis support the use of bridging therapy as a preferred treatment strategy for TO in the anterior circulation. By combining the thrombolytic effects of IVT with the mechanical thrombectomy capabilities of EVT, bridging therapy offers the potential for improved functional outcomes, reduced mortality, and enhanced recanalization rates, without a significant increase in the risk of hemorrhagic complications.

Vascular occlusion

These findings underscore the importance of optimizing treatment strategies to achieve optimal outcomes for patients with acute ischemic stroke due to TO. Furthermore, the findings underscore the importance of timely reperfusion in the management of acute ischemic stroke, particularly in cases of tandem vascular occlusion where the risk of poor outcomes is heightened. Bridging therapy, with its dual approach targeting both proximal and distal occlusions, appears to offer a comprehensive solution to this clinical challenge. Moving forward, future research efforts should aim to refine patient selection criteria and treatment protocols to further optimize the outcomes associated with bridging therapy. Additionally, ongoing studies exploring novel thrombolytic agents, advanced imaging techniques, and endovascular devices may provide further insights into enhancing the effectiveness and safety of this treatment approach. Ultimately, the goal is to establish evidence-based guidelines that can guide clinicians in the selection and implementation of the most appropriate treatment strategy for each individual patient presenting with tandem vascular occlusion, thereby maximizing their chances of favorable outcomes and improved quality of life.