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Letter to the Editor

Anti-platelets and Antithrombotic Co-Ingestion in Prevention of Recurrent Stroke

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Dear Editor,

I am writing to emphasize the critical importance and potential benefits of combining anti-platelet agents and antithrombotic therapy in preventing recurrent stroke. Stroke remains one of the main causes of mortality and morbidity worldwide; therefore, it is crucial to focus on secondary prevention to reduce the risk of subsequent strokes.[1,2] The integration of anti-platelet and antithrombotic therapies offers a promising strategy in this regard. It is important to address nutritional status and lifestyle to achieve better outcomes with these drugs and agents.[3] Furthermore, timely diagnosis and treatment of patients are essential to prevent and improve patient flow in the emergency department.[4]

The Role of Anti-platelet Agents

Anti-platelet agents, such as aspirin and clopidogrel, play a vital role in inhibiting platelet aggregation, thus preventing thrombus formation in the arterial circulation. These agents have been shown to significantly reduce the risk of recurrent stroke, particularly in patients with a history of ischemic stroke or transient ischemic attack.[5] For instance, the use of aspirin has been well-documented in numerous studies, including the Antithrombotic Trialists' Collaboration meta-analysis, which demonstrated a substantial reduction in the incidence of recurrent vascular events.[6]

Aspirin, as a cost-effective and widely available medication, has long been a cornerstone in secondary stroke prevention. Clopidogrel, another anti-platelet agent, has also shown efficacy, especially in patients who are intolerant to aspirin or require additional platelet inhibition. The combination of aspirin and clopidogrel has been explored in certain high-risk populations, demonstrating enhanced protective effects against recurrent ischemic events.[7]

The Role of Antithrombotic Agents

Antithrombotic agents, particularly anticoagulants, are essential in preventing thromboembolic events, especially in patients with atrial fibrillation, a common risk factor for stroke. The use of direct oral anticoagulants, such as apixaban, rivaroxaban, dabigatran, and edoxaban, as well as the traditional anticoagulant warfarin, has been associated with a significant reduction in the risk of stroke in patients with atrial fibrillation.[8] These agents work by inhibiting various components of the coagulation cascade, thus preventing the formation of thrombi that can lead to ischemic strokes.

Synergistic Benefits of Combination Therapy

Recent studies have suggested that the combination of anti-platelet and antithrombotic therapies may offer synergistic benefits in preventing recurrent strokes. For example, the COMPASS trial investigated the effects of combining low-dose rivaroxaban, an anticoagulant, with aspirin in patients with stable atherosclerotic vascular disease. The study findings revealed that this combination therapy significantly reduced the risk of stroke, cardiovascular death, and myocardial infarction compared to aspirin alone,[9] suggesting that a dual pathway inhibition approach may provide superior protection against recurrent vascular events.

The rationale behind this combination therapy lies in targeting the different mechanisms of clot formation. Anti-platelet agents inhibit platelet aggregation, which is crucial in arterial thrombosis, while anticoagulants prevent the formation of fibrin clots, addressing the risk

of thromboembolism from the venous system and cardiac sources. This dual approach is particularly beneficial in patients with complex atherosclerotic disease and those with multiple risk factors for stroke.

Risk-Benefit Assessment

However, it is essential to consider the potential risks associated with the co-ingestion of these agents, particularly the increased risk of major bleeding. The decision to use combination therapy should be based on a comprehensive assessment of the patient's risk factors, comorbidities, and potential for bleeding complications. Clinicians must carefully weigh the benefits and risks to optimize the therapeutic approach for each patient.

Studies such as the CHARISMA trial have highlighted that while combination therapy can reduce the risk of ischemic events, it also increases the risk of major bleeding.[10] Therefore, patient selection is crucial, and the decision to use combination therapy must be individualized.

Clinical Implications and Future Directions

In clinical practice, the use of combined anti-platelet and antithrombotic therapy should be guided by current guidelines and tailored to the individual patient's risk profile. Continuous monitoring and regular follow-up are essential to ensure the efficacy and safety of the therapy. Additionally, advances in precision medicine and the development of novel biomarkers may further refine patient selection and improve outcomes.

Further research is needed to identify the optimal combinations and dosages that maximize efficacy while minimizing adverse effects. Ongoing trials and real-world studies will provide valuable insights into the long-term benefits and risks of combination therapy in diverse patient populations.

Conclusion

In general, the co-ingestion of anti-platelet and antithrombotic therapies represents a promising strategy for the prevention of recurrent stroke. While the potential benefits are substantial, careful patient selection and monitoring are crucial to minimize the associated risks. Further research is required to refine these strategies and develop personalized treatment plans that maximize efficacy and safety.

Ethics Statement

Not applicable.

Conflict of Interests Declaration

None.

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