Dual antiplatelet therapy and anticoagulation to protect post-percutaneous coronary intervention. For guidelines dual antiplatelet therapy and anticoagulation.

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Dual antiplatelet therapy is necessary for patients undergoing percutaneous coronary intervention (PCI) to prevent thrombotic complications. Anticoagulation is recommended in high-risk patients to prevent systemic embolization and stent thrombosis. This guideline provides recommendations for dual antiplatelet therapy and anticoagulation in PCI patients based on current evidence.

1. Dual antiplatelet therapy

1.1. Aspirin

Aspirin is recommended for all PCI patients to reduce the risk of restenosis and stent thrombosis. The primary antiplatelet effect of aspirin is to inhibit cyclooxygenase-1 (COX-1), preventing the conversion of arachidonic acid to prostaglandin H2, which inhibits the formation of thromboxane A2, a potent platelet agonist.

1.2. Clopidogrel

Clopidogrel is recommended for all PCI patients who are intolerant of aspirin or who are at high risk of stent thrombosis. Clopidogrel inhibits platelet aggregation by irreversibly inhibiting the P2Y12 receptor, which is involved in the signaling pathway of platelet activation.

1.3. Prasugrel

Prasugrel is an alternative to clopidogrel for high-risk PCI patients. Prasugrel inhibits the P2Y12 receptor at a faster rate than clopidogrel, providing more rapid inhibition of platelet aggregation.

1.4. Dual antiplatelet therapy with aspirin and clopidogrel

Dual antiplatelet therapy with aspirin and clopidogrel is recommended for all PCI patients to reduce the risk of stent thrombosis and improve clinical outcomes. The combination of aspirin and clopidogrel provides additive antiplatelet effects, reducing the formation of platelet aggregates.

2. Anticoagulation

2.1. Warfarin

Warfarin is recommended for high-risk PCI patients to prevent systemic embolization and stent thrombosis. Warfarin acts by inhibiting vitamin K epoxide reductase, reducing the synthesis of clotting factors II, VII, IX, and X.

2.2. Direct oral anticoagulants

Direct oral anticoagulants (DOACs) are recommended for high-risk PCI patients to prevent systemic embolization and stent thrombosis. DOACs, such as apixaban, rivaroxaban, and edoxaban, inhibit specific clotting factors, providing a rapid and predictable effect.

3. Duration

The optimal duration of dual antiplatelet therapy and anticoagulation is not well-established. However, current guidelines recommend a duration of at least 12 months for high-risk PCI patients.

4. Discontinuation

Discontinuation of dual antiplatelet therapy and anticoagulation is recommended after the completion of PCI, considering the risk-benefit ratio for each individual patient.

5. Conclusions

Dual antiplatelet therapy and anticoagulation are critical for PCI patients to prevent complications. Current evidence supports the use of aspirin and clopidogrel for all PCI patients, with DOACs recommended for high-risk patients. The optimal duration and discontinuation strategies require further research.