PREVENTION OF COMPLICATIONS IN PATIENTS UNDERGOING PERCUTANEOUS CORONARY INTERVENTION BASED ON THE PRECISE-DAPT SCORE

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Review of Literature. Ischemic heart disease remains a pressing global health problem. Among modern therapeutic strategies, percutaneous coronary intervention (PCI) plays a key role in relieving myocardial ischemia and improving long-term prognosis in many patients. However, the post-PCI period is often complicated by various adverse events, including restenosis, stent thrombosis, and, importantly, bleeding events, which represent one of the major clinical challenges. Therefore, in the management of patients after PCI, careful assessment of risk factors, as well as the accurate selection of both the duration and composition of antiplatelet therapy, is of paramount importance.

In 2017, Costa and colleagues proposed the PRECISE-DAPT score, which made it possible to accurately assess the risk of bleeding in patients. This scoring system is based on both clinical and laboratory parameters, including hemoglobin level, white blood cell count, platelet count, creatinine clearance, and patient age. These variables are calculated within a 100-point scale, and the resulting score stratifies patients into low-, intermediate-, or high-risk categories for bleeding. Accordingly, the duration and composition of dual antiplatelet therapy (DAPT) can be individualized.

In recent years, particularly in 2020, the PRECISE-DAPT score has been tested in several large-scale studies and demonstrated effectiveness across different populations. In a study published in Circulation in 2020, Ueki Y. and colleagues

compared the PRECISE-DAPT score with the ARC-HBR criteria. The findings confirmed that this score provides a reliable tool for assessing bleeding risk in patients undergoing percutaneous coronary intervention.

Natsuaki M. and colleagues (2020), in a study conducted in a Japanese population, demonstrated that the PRECISE-DAPT score also holds high prognostic value among patients in East Asian countries. In particular, leukocyte count and hemoglobin levels were found to be especially important for accurately predicting bleeding risk. Ueki Y. and colleagues (2020) investigated the reliability of the PRECISE-DAPT score in elderly patients. Their findings indicated that the score maintains high predictive accuracy in older populations and serves as a useful tool for optimizing the duration of dual antiplatelet therapy (DAPT). Costa F. and colleagues (2020), in a meta-analysis of 14 large randomized trials, confirmed that the PRECISE-DAPT score is effective in individualizing the duration of DAPT and plays a crucial role in preventing bleeding complications.

Based on this score, the following clinical practice is recommended:

High bleeding risk (PRECISE-DAPT ≥25): the duration of dual antiplatelet therapy should be limited to ≤6 months.

Low or intermediate bleeding risk: DAPT may be extended to 12–18 months or longer.

Such an approach not only reduces the risk of restenosis and stent thrombosis after PCI but also helps to prevent bleeding events.

Conclusion. The PRECISE-DAPT score enables accurate assessment of bleeding risk and facilitates personalization of antiplatelet therapy in patients after percutaneous coronary intervention. Its implementation in clinical practice allows for the prevention of bleeding complications, individualized determination of therapy duration, reduction in the incidence of restenosis and stent thrombosis, and improvement of long-term clinical outcomes. Therefore, integration of the PRECISE-DAPT score into national clinical practice is of great importance for preventing post-PCI complications and improving patients' survival prognosis.

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