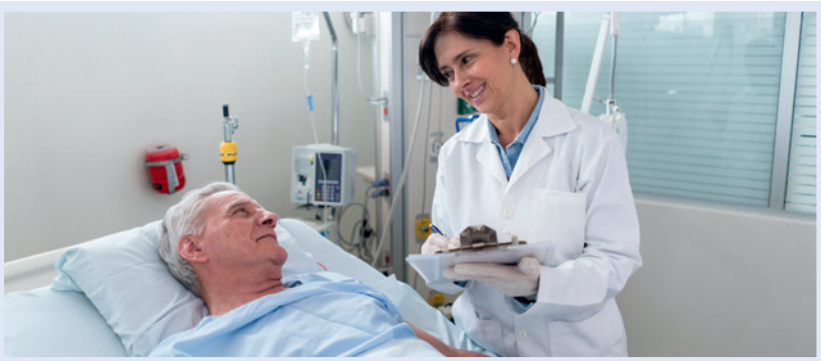
IMMATURE PLATELETS
CLINICAL USE

Know more.
Decide with confidence.
Act faster.

Identifying poor antiplatelet drug response and its risks early on

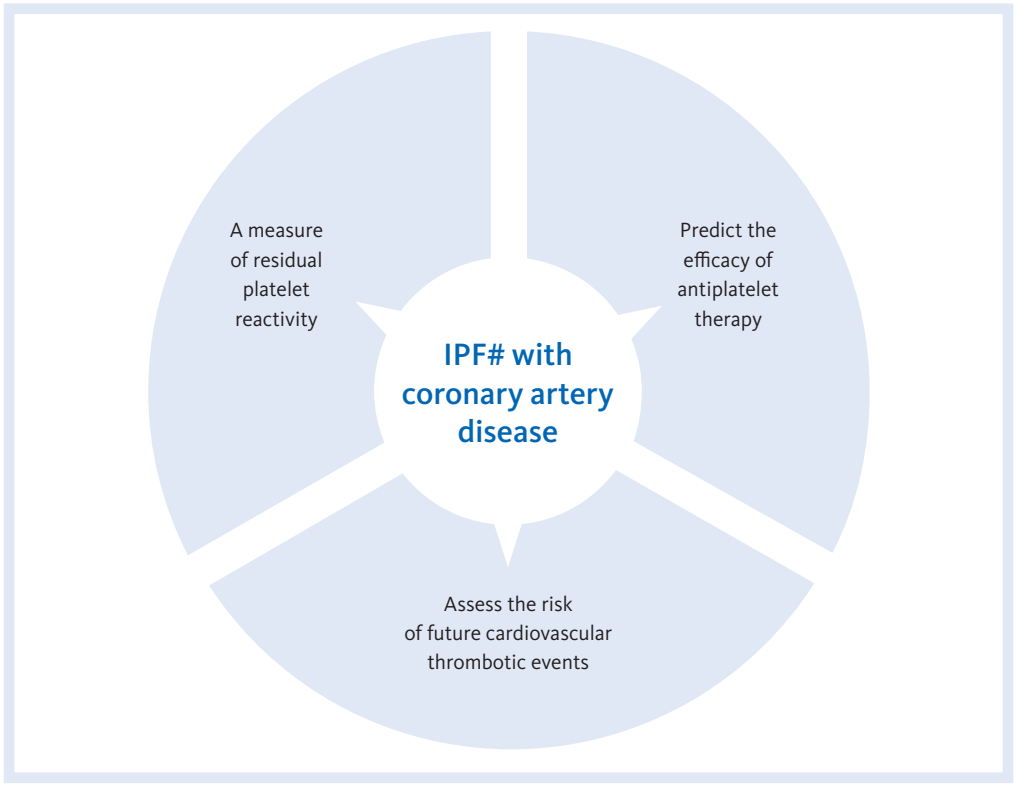
Coronary artery disease is the foremost cause of death in the Western world, for which platelet inhibition remains the focus of medical therapy. For most patients, predicting the risk of future complications and evaluating the efficacy of antiplatelet therapy is essential. Immature, newly released platelets are more reactive than mature ones and have increased prothrombotic potential. Studies show that they play an important role in the risk assessment and therapy monitoring of coronary artery diseases. The IPF# (immature platelet count) parameter delivers insight to address these issues.



A 63-year-old man with acute coronary syndrome has percutaneous coronary intervention with two drug-eluting stents in the left anterior descending coronary artery. Four days after completion of dual antiplatelet medication (75 mg aspirin and 75 mg clopidogrel once per day) he presents with an ST segment elevation myocardial infarction (classic heart attack). Coronary angiography and intravascular ultrasound demonstrate thrombotic occlusion of the stent. Although the platelet count is normal, the immature platelet count (IPF#) is elevated (13 x 10^9/L) due to the compensation of platelet consumption. This confirms that the patient is at risk for cardiovascular thrombotic events because it indicates ineffective inhibition and poor antiplatelet drug response. Consequently, his clopidogrel dose is increased to 300 mg after which the IPF# count normalises to 5 x 10^9/L within three days.

What is the immature platelet count, or IPF#?

- The absolute count of immature platelets, determined from a patient's peripheral blood sample and independently from the total platelet count.
- Immature or reticulated platelets are newly released from bone marrow reflecting its activity, and their high amount of RNA is measured by a specific fluorescence method.
- The platelet analogue of reticulocytes in red cell populations.



The immature platelet count (IPF#) is a novel haematological diagnostic parameter that provides valuable information with coronary artery disease.

Clinical use of IPF# with coronary artery diseases

Patients with acute coronary syndromes often have high immature platelet counts* that the body produces to compensate for platelet loss caused by platelet aggregation due to atherosclerosis.

Immature platelets are more reactive than mature ones and have an increased prothrombotic potential:*

- They are more resistant to functional inhibition by aspirin and $P2Y_{12}$ receptor antagonists. Consequently, many studies have shown that the immature platelet count (IPF#), as a measure of residual platelet reactivity, is a predictor of the efficacy of antiplatelet therapy.*
- The immature platelet count can therefore be used to assess the risk of future cardiovascular thrombotic events.*

Your benefits

- The diagnostic parameter IPF# is readily available from a routine laboratory blood test and may be ordered and processed together with the complete blood count.
- The IPF# parameter has a better predictive value in terms of platelet reactivity than traditional platelet function tests.* As such, it may help to evaluate the current status of platelet inhibition more reliably.
- IPF# is a valuable parameter for effective risk assessment and therapy monitoring of coronary artery diseases.

* Benefit from more background information in our freely accessible white papers:
www.sysmex-europe.com/whitepapers

ZE001507.EN.C.09/18