Literature List – Platelets

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General

Arbiol-Roca A et al. (2018)
Reference intervals for a complete blood count on an automated haematology analyser Sysmex XN in healthy adults from the southern metropolitan area of Barcelona.
EIJFCC; 29(1): 48
Free online: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5949618/
What we see as the essence: The aim of the study was to establish reference intervals for CBC, DIFF and reticulocytes for a Spanish population. Significant gender differences were found for RBC, PLT, HCT and HGB.

Tailor H et al. (2017)
Evaluation of the Sysmex XN-550, a Novel Compact Haematology analyser from the XN-L® series, compared to the XN-20 system.
Int J Lab Hematol; 39(6): 585
What we see as the essence: Samples from adult patients (N=202) were measured on the XN-550 and compared with an XN-20. Good correlations and low bias was observed for all parameters except for BASO%. PLT-O from the XN-550 showed no significant bias compared to PLT-F from the XN-20.

Cao J et al. (2017)
Establishing a Stand-Alone Laboratory Dedicated to the Care of Patients With Ebola Virus Disease.
Lab Med; 48(2): 188
https://doi.org/10.1093/labmed/lmw072
What we see as the essence: The pocH-100i was used in a laboratory dedicated to detection of Ebola virus disease. Its accuracy was verified by comparison with the XE-2100 in the main laboratory, and its precision and reportable range were also consistent with Sysmex's claims.

Jo SY et al. (2017)
Performance evaluation of recently launched Sysmex XN-550 Automatic Hematology Analyzer.
Int J Lab Hematol 39(1):e4
What we see as the essence: The XN-550 showed a good analytical performance and strong correlation with XE-2100 and XN-3000 analysers for routine CBC parameters.
Tamigniau A et al. (2017)
From XE-2100 to XN-9000, from SIS Standard to GFHC recommendations for slide review: potential impact on review rate and turnaround time.
Annales de biologie Clinique. 75(3): 285
http://www.jle.com/fr/revues/abc/e-docs/from_xe_2100_to_xn_9000_from_sis_standard_to_gfhc_recommendations_for_slide_review_potential_impact_on_review_rate_and_turnaround_time_309721/article.phtml

What we see as the essence: Changing from the XE-2100 to XN-9000 and implementing the Biomedical Validation ruleset led to a significant reduction in review rate (from 35.8% to 25.9%) and TAT. In this hospital this resulted in a cost reduction of 7000 Euros over 6 months.

Van Dievoet MA et al. (2016)
Performance evaluation of the Sysmex® XP-300 in an oncology setting: evaluation and comparison of hematological parameters with the Sysmex® XN-3000.
Int J Lab Hematol; 38(5):490

What we see as the essence: The XP-300 showed very good precision and linearity results, comparable with the XN-3000 analyser.

Cornet E et al. (2016)
Evaluation and optimization of the extended information process unit (E-IPU) validation module integrating the sysmex flag systems and the recommendations of the French-speaking cellular hematology group (GFHC).

What we see as the essence: Using the biomedical validation criteria, 21.3% of samples triggered a smear review. Modification of four criteria reduced the number of smears from 21.3% to 15.0% without loss of clinical value.

Geara C et al. (2016)
Comparative study of quantitative performances between the new Sysmex XN-L (XN-550) haematology analyser and the XN-9000 in a routine laboratory.
Int J Lab Hematol 38(1): e10

What we see as the essence: The XN-Series and XN-L Series were compared; correlations were good and the study showed that the XN-L Series provided the same high quality as the XN-Series.
Seo JY et al. (2015)
Performance evaluation of the new hematology analyzer Sysmex XN-series.
Int J Lab Hematol: 37(2): 155

**What we see as the essence:** A good correlation was found between the XN- and XE-Series for all parameters. The XN-Series dramatically reduced the smear rate (by 58%). Even at counts below 500/µL the XN provided an accurate WBC count using the Low WBC mode.

Arneth B et al. (2015)
Technology and New Fluorescence Flow Cytometry Parameters in Hematological Analyzers.
J Clin Lab Anal; 29(3): 175

**What we see as the essence:** This paper gives a good overview of the technology behind the XE-Series and the benefits of flow cytometry and automatic cell counting. It shows that the XE-5000 delivers faster accurate results than older analysers.

Genevieve F et al. (2014)
Smear microscopy revision: propositions by the GFHC.
feuillets de Biologie VOL LVI N° 317
Free online: http://www.gfhc.fr/upload/smear-microscopic-revision.pdf

**What we see as the essence:** The GFHC reviewed in detail the criteria used within the CBC to generate blood smears and has decided on a number of minimum recommendations, defining threshold values and various situations in which the blood smear review is desirable.

PLT-F

Hummel K et al. (2018)
Comparative evaluation of platelet counts in two hematology analyzers and potential effects on prophylactic platelet transfusion decisions.
Transfusion; 58(10): 2301

**What we see as the essence:** From five routine PLT counting methods available in two haematology analysers (Sysmex XN and Abbott CELL-DYN Sapphire) only Sysmex PLT-F, Sapphire PLT-O and CD61 methods are sufficiently accurate for making appropriate clinical decisions about PLT transfusions in patients with severe thrombocytopenia. The PLT-F method showed the lowest number of undertransfused and overtransfused cases from all the compared methods.
**Tantanate C et al. (2017)**
Arch Pathol Lab Med; 141(6):830

*What we see as the essence:* PLT-I, PLT-O and PLT-F in thalassemia patients were compared with CD41/CD61 immune flow cytometry. PLT-O and PLT-F had better correlations with flow cytometry than PLT-I. PLT-F had a better specificity for detection of PTL counts below 100,000/µL.

**Wada A et al. (2015)**
Accuracy of a New Platelet Count System (PLT-F) Depends on the Staining Property of Its Reagents.
PLoS One; 10(10)

*What we see as the essence:* The study showed that the PLT-F reagent labels intracellular structures within platelets and confirms previous findings that it strongly marks CD41/CD61-positive platelets.

**Tailor H et al. (2014)**
Evaluating platelet counting on a new automated analyser.
Hospital Health Care Europe(HHE); 2:181-184

*What we see as the essence:* The PLT-F channel of the XN-Series shows excellent precision and accuracy even in abnormal samples or samples with fragmented red cells, large platelets and low PLT counts when compared to the reference flow cytometric method.

**Park SH et al. (2014)**
The Sysmex XN-2000 Hematology Autoanalyzer Provides a Highly Accurate Platelet Count than the Former Sysmex XE-2100 System Based on Comparison with the CD41/CD61 Immunoplatelet Reference Method of Flow Cytometry.
Ann Lab Med. 34(6): 471-4

*What we see as the essence:* PLT-F counts from the XN-Series were more accurate than PLT-O counts from the XE-Series when compared with the CD41/CD61 immunoplatelet reference method.
Tanaka Y et al. (2014)
J Clin Lab Anal 28(5): 341

What we see as the essence: Compared to PLT-I and PLT-O counts, PLT-F had the best correlation with CD61-immunoplatelet counts. PLT-F counts were not affected by WBC fragments in two acute leukaemia patients or by RBC fragments and microcytes in a burn injury patient.

Schoorl M et al. (2013)
New fluorescent method (PLT-F) on Sysmex XN2000 hematology analyzer achieved higher accuracy in low platelet counting.
Am J Clin Pathol;140: 495
http://ajcp.ascpjournals.org/content/140/4/495.abstract

What we see as the essence: The PLT-F method of the XN-2000 demonstrated excellent reproducibility in samples with low platelet counts. Therefore, it is recommended for making decisions about platelet transfusions.

Briggs C et al. (2012)
Performance evaluation of the Sysmex haematology XN modular system.
http://jcp.bmj.com/content/65/11/1024.abstract (Available from Sysmex upon request)

What we see as the essence: The XN showed reduced sample turnaround time and reduced number of blood film reviews compared to the XE-2100 without loss of sensitivity and with more precise and accurate results for both platelets and low WBC counts.

PLT-O

Briggs C et al. (2004)
The most accurate platelet count on the Sysmex XE-2100. Optical or impedance?

What we see as the essence: The accuracy of the XE-2100 platelet counting on chemotherapy samples with low counts is excellent when the switching algorithm is used. The optical count is not always the most accurate and the overriding of the algorithm is not good practice.
**IPF**

**Tantanate C et al. (2019)**

Analytical performance of automated platelet counts and impact on platelet transfusion guidance in patients with acute leukemia
Scand J Clin Lab Invest; 79(3):160


**What we see as the essence:** In this study the performance of impedance platelet counting using PLT-I, LH-750 (PLT-LH), as well as PLT-F was analysed in patients with acute leukemia. PLT-F demonstrated an excellent performance for the identification of thrombocytopenia and had the lowest rate of undertransfusion. Additionally, the authors found that a high blast count is associated with inaccurate PLT-LH and PLT-I counts.

**Bernstein U et al. (2019)**

The immature platelet fraction in hypertensive disease during pregnancy
Arch Gynecol Obstet; 299(6):1537


**What we see as the essence:** This study shows that IPF% can be used to identify hypertensive diseases in pregnancy. Moreover, the absolute number of IPF and platelets could help to differentiate preeclampsia and HELLP syndrome.

**Van De Wyngaert Z et al. (2019)**

Immature platelet fraction (IPF): A reliable tool to predict peripheral thrombocytopenia
Curr Res Transl Med; early online


**What we see as the essence:** This retrospective study found that IPF higher than 13% is predictive of peripheral thrombocytopenia. In isolated thrombocytopenia bone marrow aspiration could have been avoided in 66% of patients in this study cohort.

**Johnson S et al. (2019)**

A CBC algorithm combined with immature platelet fraction is able to identify JAK2 V617F mutation-positive polycythaemia vera patients.
Outcomes
Int J Lab Hematol; 41(2): 271


**What we see as the essence:** The study proposes an algorithm based on CBC and IPF# parameters that allows to identify a cohort of high-likelihood polycythaemia vera (PV) patients and refer them for haematological review. IPF# > 20 x 10e9/L in combination with positive CBC criteria can identify JAK2 V617F mutation-positive PV patients.
Hannawi B *et al.* (2018)

Reticulated Platelets - Changing Focus from Basics to Outcomes
Thromb Haemost; 118(9): 1517


**What we see as the essence:** The authors discussed the role of reticulated platelets in coronary artery disease and in hyporesponsiveness to the commonly used anti-platelet drugs. Reticulated platelets may be a useful marker for predicting worse cardiovascular outcome.

Anetsberger A *et al.* (2017)

Immature platelets as a novel biomarker for adverse cardiovascular events in patients after non-cardiac surgery.
Thromb Haemost; 117(10):1887


**What we see as the essence:** IPF with optimal cut off of > 5.4% is an independent predictor of major adverse cardiovascular events, deep vein thrombosis or pulmonary embolism (modMACE) after non-cardiac surgery and improve risk stratification of surgical patients.

Buoro S *et al.* (2018)

Innovative haematological parameters for early diagnosis of sepsis in adult patients admitted in intensive care unit.
J Clin Pathol.; 71(4): 330

[http://jcp.bmj.com/content/71/4/330.long](http://jcp.bmj.com/content/71/4/330.long)

**What we see as the essence:** The combination of an increased value of IPF# and a decreased value of RET% 24 hours before the onset of sepsis in ICU patients may be considered an early, rapid, inexpensive and widely available measure of sepsis prediction.

Sakuragi M *et al.* (2018)

Immature platelet fraction (IPF) as a predictive value for thrombopoietic recovery after allogeneic stem cell transplantation.
Int J Hematol; 107(3): 320

[https://link.springer.com/article/10.1007%2Fs12185-017-2344-8](https://link.springer.com/article/10.1007%2Fs12185-017-2344-8)

**What we see as the essence:** IPF was able to predict platelet recovery in patients after allogeneic haematopoietic stem cell transplantation in 5 out of 11 patients, while IPF# was able to predict recovery in 7 out of 11 patients. Cutoffs of 5.8% and 200/µL were used, respectively.
Ferreira FLB et al. (2017)
Evaluation of the immature platelet fraction contribute to the differential diagnosis of hereditary, immune and other acquired thrombocytopenias.
Sci Rep; 7(1):3355
Free online: http://www.nature.com/articles/s41598-017-03668-y
What we see as the essence: The authors evaluated the use of IPF in the differential diagnosis between ITP and hereditary macrothrombocytopenia (HM). The IPF values were higher in HM than in ITP as already demonstrated by other studies.

Freynhofer MK et al. (2017)
Platelet turnover predicts outcome after coronary intervention.
Thromb Haemost; 117(5):923
Free online: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5442606/
What we see as the essence: An elevated platelet turnover independently predicts major adverse cardiovascular events after percutaneous coronary intervention. The optimal cut-off-value was at IPF=3.35 %.

MacQueen BC et al. (2017)
The immature platelet fraction: creating neonatal reference intervals and using these to categorize neonatal thrombocytopenias.
J Perinatol; 37(7): 834
http://www.nature.com/articles/jp201748
What we see as the essence: Neonatal reference intervals for IPF and IPF# were reported according to gestational age, and during the first 90 days after birth. Moreover, neonates with hyporegenerative thrombocytopenias had lower IPF and IPF# than neonates with consumptive ones.

Buoro S et al. (2017)
Abnormal leukocyte scattergrams and immature platelet fraction on Sysmex XN-9000 analyzer: a new diagnostic tool for altered megakaryopoiesis?
Scand J Clin Lab Invest; 77(1):73
http://www.tandfonline.com/doi/abs/10.1080/0365613.2016.1262057
What we see as the essence: This case report shows how a high IPF, combined with abnormal WNR, WDF and WPC scattergrams could be used as a marker of dysmegakaryopoiesis, and led to the diagnosis of MDS type 2-refractory anaemia with excess blasts (REAB-2) in a nine year-old girl.
Stratz C et al. (2016)
Comparison of Immature Platelet Count to Established Predictors of Platelet Reactivity During Thienopyridine Therapy.
J Am Coll Cardiol; 68(3):286

Free online: http://www.onlinejacc.org/content/68/3/286

What we see as the essence: IPF# is a strong independent platelet-derived predictor of antiplatelet response to clopidogrel and prasugrel treatment.

Jaing TH et al. (2016)
Assessment of platelet activation and immature platelet fraction as predictors of platelet engraftment after hematopoietic stem cell transplantation,
Cell Transplant 25: 1259
http://www.ingentaconnect.com/content/cog/ct/2016/00000025/00000007/art00005

What we see as the essence: The study showed that IPF (XE-2100) can be used to assess thrombopoietic recovery after stem cell transplantation. Patients in the cord blood group had a higher IPF than the peripheral blood group on day 56 and day 97 post-transplantation.

Moraes D et al. (2016)
Immature platelet fraction in hypertensive pregnancy.
Platelets; 27(4):333

What we see as the essence: IPF% measured on the XE-5000 in pregnant women suffering hypertensive disorders was higher than in control group (3.8, 2.4–5.1%; 8.6, 5.8–10.6%; 7.3, 4.2–10.2%; p < 0.001 for control group, preeclampsia syndrome and non-proteinuric hypertension, resp.).

Cremer M et al. (2016)
Thrombocytopenia and platelet transfusion in the neonate.
Seminars in Fetal & Neonatal Medicine; 21(1):10
Free online: http://www.sfnmjournal.com/article/S1744-165X(15)00128-6/fulltext

What we see as the essence: The review summarises the pathophysiology and current management (including platelet transfusion thresholds) of neonatal thrombocytopenia. Novel index score for bleeding risk in thrombocytopenic neonates is proposed (including IPF#).
Hong H et al. (2015)
Absolute immature platelet count dynamics in diagnosing and monitoring the clinical course of thrombotic thrombocytopenic purpura.
Transfusion; 55(4):756

What we see as the essence: The absolute IPF (from XE-5000) is useful to diagnose and to monitor the clinical course of therapeutic plasma exchange in TTP patients. Routine analysis of the absolute IPF is recommended for diagnosis and to better assess the need for adjustment of treatment.

Morkis IVC et al. (2015)
Assessment of immature platelet fraction and immature reticulocyte fraction as predictors of engraftment after hematopoietic stem cell transplantation.

What we see as the essence: Both IRF% and IPF% can be used to predict neutrophil and platelet recovery, respectively. Work was done on XE-5000.

Mao W et al. (2015)
Immature platelet fraction values predict recovery of platelet counts following liver transplantation.
Clin Res Hepatol Gastroenterol; 39(4):469

What we see as the essence: IPF% value predict recovery of PLT counts after liver transplantation. PLT counts reached the pre-transplant levels at 3-4 days after the IPF% peak value.

Greene LA et al. (2015)
Beyond the platelet count: immature platelet fraction and thromboelastometry correlate with bleeding in patients with immune thrombocytopenia.
Br J Haematol; 166(4):592

What we see as the essence: The IPF# demonstrated stronger correlation with acute bleeding score than platelet counts. The strongest correlation was seen for paediatric patients with platelet counts <30 x 10e9/L. High IPF# was associated with low bleeding score.
Miyazaki K et al. (2015)
Immature platelet fraction measurement is influenced by platelet size and is a useful parameter for discrimination of macrothrombocytopenia.
Hematology; 20(10):587-92

What we see as the essence: The IPF% values were about five times higher in May-Hegglin disorders (IPF 48.6 ± 1.9%) and about twice as high in other macrothrombocytopenias (IPF 18.4 ± 2.1%) than in ITP patients with similar platelet counts (IPF 9.2 ± 0.3%).

Sakuragi M et al. (2015)
Clinical significance of IPF% or RP% measurement in distinguishing primary immune thrombocytopenia from aplastic thrombocytopenic disorders.
http://link.springer.com/article/10.1007%2Fs12185-015-1741-0

What we see as the essence: IPF% from the XN-1000 and RP% obtained by immuno flow cytometry had a comparable diagnostic value for the distinction between controls, immune thrombocytopenia (due to platelet destruction) and aplastic thrombocytopenia.

Adly AA et al. (2015)
Evaluation of the immature platelet fraction in the diagnosis and prognosis of childhood immune thrombocytopenia.
Platelets; 26(7):645.

What we see as the essence: IPF% obtained from the XE-2100 was increased in immune thrombocytopenia patients but not in patients with haematological malignancies. Therefore, IPF% may be used to evaluate the thrombopoietic state of the bone marrow.

Dadu T et al. (2014)
Evaluation of the IPF as an indicator of PLT recovery in dengue patients.
Int J Lab Hematol; 36(5): 499.

What we see as the essence: IPF can be used to monitor the thrombocytopenia in patients with dengue fever. Furthermore it can predict the recovery of PLT and so avoid unnecessary blood transfusions.
**Everett TR et al. (2014)**

Immature platelet fraction analysis demonstrates a difference in thrombopoiesis between normotensive and preeclamptic pregnancies.

Thromb Haemost; 111(6): 1177

http://th.schattauer.de/en/contents/archive/issue/1870/manuscript/20753.html

**What we see as the essence:** The study illustrates the potential utility of IPF as a parameter to distinguish between normotensive and preeclamptic pregnant women. The authors suggest that IPF is a far better parameter than MPV, which has previously been suggested for this purpose, and can distinguish between the two groups even at normal platelet counts.

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**Van der Linden N et al. (2014)**

Immature platelet fraction (IPF) measured on the Sysmex XN haemocytometer predicts thrombopoietic recovery after autologous stem cell transplantation.

Eur J Haematol; 93(2): 150


**Quote:** "IPF is a promising predictor of platelet recovery in patients after autologous SCT." "The proposed cut-off value of 5.3% can theoretically be used to decide whether or not to give a platelet transfusion."

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**Ibrahim H et al. (2014)**

Association of Immature Platelets With Adverse Cardiovascular Outcomes.

J Am Coll Cardiol; 64:2122


**What we see as the essence:** IPF# (XE-2100) allows for stratification of patients with coronary artery disease in terms of risk for future adverse events. Patients with an IPF# level >=7,632/µl were more likely to experience an adverse event (hazard odds ratio: 4.65; p < 0.002).

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**Bat T et al. (2013)**

Measurement of the absolute immature platelet number reflects marrow production and is not impacted by platelet transfusion.

Transfusion; 53(6): 1201


**What we see as the essence:** Absolute IPF is a good parameter to assess the megakaryocitic activity of the bone marrow in transfusion-dependent thrombocytopenic patients.
Cesari F et al. (2013)
Free online: http://dx.doi.org/10.1160/TH12-09-0709
What we see as the essence: Reticulated (immature) platelets may be independent predictors of cardiovascular death and may potentially be useful in improving risk stratification for acute coronary syndrome patients.

Cremer M et al. (2013)
Low immature platelet fraction suggests decreased megakaryopoiesis in neonates with sepsis or necrotizing enterocolitis. J Perinatol; 33(8): 622
http://www.nature.com/jp/journal/vaop/ncurrent/full/jp201321a.html
What we see as the essence: Low absolute IPF values during the course of neonatal sepsis/necrotizing enterocolitis suggest suppression of megakaryopoietic activity.

Funck-Jensen K et al. (2013)
Increased platelet aggregation and turnover in the acute phase of ST-elevation myocardial infarction. Platelets; 24(7): 528
What we see as the essence: Increased platelet turnover, indicated by IPF and MPV, was observed in the acute phase of ST-elevated myocardial infarction and may partly explain reduced efficacy of oral antiplatelet drugs.

Ko Y et al. (2013)
Establishment of reference interval for immature platelet fraction. Int J Lab Hematol; 35(5): 528
What we see as the essence: The study provides reference intervals for PLT, IPF% and absolute IPF from more than 2000 healthy individuals and from umbilical cord blood, according to the CLSI guideline. These results could be used as fundamental data for clinical use as well as future researches.
Sinclair L (2012)
The immature platelet fraction: where is it now?  


What we see as the essence: A clear and concise review of 53 original publications concerning the clinical value of IPF. The diagnostic and prognostic potential of IPF in various conditions, and also advantages and limitations of IPF are described.

Sinclair L (2012)
The immature platelet fraction: an assessment of its application to a routine clinical laboratory. 


What we see as the essence: The purpose of the review is to assess the suitability of the IPF% as a routine test. Productivity rather than clinical value is discussed. Reference ranges are given.

Psaila B et al. (2012)
In vivo effects of eltrombopag on platelet function in immune thrombocytopenia: no evidence of platelet activation.  
Blood; 119: 4066

Free online: http://bloodjournal.hematologylibrary.org/cgi/pmidlookup?view=long&pmid=22294727

What we see as the essence: IPF% was higher in patients with ITP than the controls, reflecting the increased platelet production. Treatment with eltrombopag led to increased platelet counts, platelet size, and absolute IPF, but no significant change in IPF%.

Parco S et al. (2012)
Application of reticulated platelets to transfusion management during autologous stem cell transplantation.  
OncoTargets and Therapy; 5: 1

Free online: http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3278260/pdf/ott-5-001.pdf

What we see as the essence: Using IPF-rich platelet transfusions reduces the number of transfusions and bleedings after stem cell transplantation in paediatric patients.


Zucker ML et al. (2012)
Mechanism of thrombocytopenia in chronic hepatitis C as evaluated by the immature platelet fraction. Int J Lab Hematol; 34: 525

**What we see as the essence:** IPF% can support the differentiation between platelet destruction and bone marrow failure in hepatitis C patients.

Barsam SJ et al. (2011)
Platelet production and platelet destruction: assessing mechanisms of treatment effect in immune thrombocytopenia. Blood 117; 5723
Free online: http://bloodjournal.hematologylibrary.org/content/117/21/5723.full.pdf+html

**What we see as the essence:** The absolute immature platelet count (IPF#) can be used to assess the effect of different treatments of immune thrombocytopenia and could in such cases be more useful than IPF%.

Goncalo A et al. (2011)
Predictive value of immature reticulocyte and platelet fractions in hematopoietic recovery of allograft patients. Transplant Proc; 43: 241
http://www.transplantation-proceedings.org/article/S0041-1345(10)01945-7/abstract

**What we see as the essence:** The immaturity fractions IPF and IRF offer an easy and early evaluation method of posttransplantational recovery of the bone marrow.

Strauss G et al. (2010)

**What we see as the essence:** "Both IPF% and IPF# parameters should become a standard for evaluating the respective pathophysiologies underlying both congenital and acquired thrombocytopenias."
Cesari F et al. (2010)
High platelet turnover and reactivity in renal transplant recipients patients.
Thrombosis and Haemostasis; 104: 804
http://dx.doi.org/10.1160/TH10-02-0124

What we see as the essence: Renal transplant recipients showed significantly higher values of reticulated platelets (IPF) than healthy control subjects, especially in those not on aspirin treatment. An elevated IPF% could be an additional hint for a mechanism involved in the increased cardiovascular risk profile of those patients.

Yamaoka G et al. (2010)
The immature platelet fraction is a useful marker for predicting the timing of platelet recovery in patients with cancer after chemotherapy and haematopoietic stem cell transplantation.
Int J Lab Hematol; 32: e208

What we see as the essence: An IPF% of above 10% is a useful marker for predicting the timing of platelet recovery after chemotherapy and haematopoietic stem cell transplantation and has the potential to facilitate optimal platelet transfusion.

Cremer M et al. (2009)
Immature platelet fraction as novel laboratory parameter predicting the course of neonatal thrombocytopenia.
Br J Haematol; 144: 619

What we see as the essence: If the IPF is high, thrombocytopenic neonates are likely to recover on their own.

Takami A et al. (2007)
Immature platelet fraction for prediction of platelet engraftment after allogeneic stem cell transplantation.
Bone Marrow Transplant; 39: 501
Free online: http://www.nature.com/bmt/journal/v39/n8/pdf/1705623a.pdf

What we see as the essence: IPF counting can provide an accessible marker of engraftment after transplantation, especially of thrombopoietic activity.
Abe Y et al. (2006)
A simple technique to determine thrombopoiesis level using immature platelet fraction (IPF).
Thromb Res; 118: 463

What we see as the essence: The results show that the IPF reflects the pathology of thrombocytopenic disorders (i.e., consumptive versus productive). Measurement of the IPF is useful for the differential diagnosis and analysis of platelet kinetics and significantly more so than the mean platelet volume (MPV).

Briggs C et al. (2006)
Immature platelet fraction measurement: a future guide to platelet transfusion requirement after haematopoietic stem cell transplantation.
Transfus Med; 16: 101

What we see as the essence: The automated IPF is a useful parameter in the clinical evaluation of the thrombocytopenic patient and has the potential to allow optimal transfusion of platelet concentrates.

Kickler T et al. (2006)
A clinical evaluation of high fluorescent platelet fraction percentage in thrombocytopenia.
Am J Clin Pathol; 125: 282
Free online: http://ajcp.ascpjournals.org/content/125/2/282.long

What we see as the essence: The IPF (here named HFPF for ‘high fluorescence platelet fraction’) was predictive in the evaluation of thrombocytopenia. An elevated IPF is found with increased platelet production, particularly associated with platelet destruction, and in disorders associated with decreased platelet production the IPF is normal.

Briggs C et al. (2004)
Assessment of an immature platelet fraction (IPF) in peripheral thrombocytopenia.
Br J Haematol; 126: 93

What we see as the essence: Automated IPF% measurement should become a standard parameter in evaluating the thrombocytopenic patient.