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Titel des Beitrags: Assessment of platelet response to clopidogrel with multiple electrode aggregometry, the VerifyNow P2Y12 analyzer and platelet Vasodilator-Stimulated Phosphoprotein flow cytometry.

Abstract: Multiple electrode platelet aggregometry (MEA) adenosine diphosphate (ADP) test is able to detect the platelet response to clopidogrel. The values obtained with MEA ADP test correlate with those obtained with light transmission aggregometry and peri-interventional MEA ADP test measurements are highly associated with the risk of early stent thrombosis after percutaneous coronary intervention. The main purpose of the present study was to correlate MEA ADP test with the VerifyNow P2Y12 analyzer, Platelet VASP flow cytometry and the MEA ADP test HS in order to test if these assays can substitute for each other. Blood samples from 60 consecutive patients scheduled for coronary angiography before and after administration of 600 mg of clopidogrel were analyzed. The correlation of MEA ADP test with the other whole blood tests was moderate. The following order for the degree of correlation with MEA ADP test for post-clopidogrel values was found: MEA ADP test HS (R = 0.83) > VerifyNow P2Y12 (R = 0.47) > Platelet VASP (R = 0.35). Of the 12 patients in the upper quintile of post-clopidogrel values according to MEA ADP test, seven were in the upper quintile according to VerifyNow P2Y12 (P < 0.001), six were in the upper quintile according to MEA ADP test HS (P =
0.004) and three were in the upper quintile according to VASP (P = 0.63). Therefore, the studied whole blood assays cannot substitute for each other. Each assay with prognostic significance will have to undergo the ultimate test for individualized antiplatelet therapy in form of an adequately powered randomized clinical trial that shows that adjustment of antiplatelet therapy is beneficial for the patient.

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