ASA EFFECT

Reference Synopsis

Patient population: key words	Publication	Synopsis
>Secondary prevention >Risk factor >Statins	Circulation. 2008; 118:000-000. J. Eikelboom, et.al. Association between incomplete suppression of thromboxane generation with usual doses of ASA and increased risk of subsequent serious vascular events	11-dehydro thromboxane B2 (11dhTxB2) is an independent, modifiable predictor of risk for stroke, MI and cardiovascular death. Statins and aspirin lower the concentrations of 11dhTxB2. Randomization to clopidogrel did not reduce 11dhTxB2 levels

		Randomization to clopidogrel vs. placebo did not reduce the hazard of cardiovascular events in patients in the highest quartile of 11dhTxB2 levels.
>Asymptomatic for coronary artery disease. >Primary prevention >Risk score	J Cardiol 2006;98:774-779. Faraday N., et.al. Relation Between Atherosclerosis Risk Factors and Aspirin Resistance in Primary Prevention Population	"Higher (urinary 11-dehydro thromboxane B2), which reflects decreased suppression of thromboxane production in vivo, is … associated with atherosclerosis risk factors, suggesting that this measurement may represent the most relevant approach for identifying asymptomatic subjects whose aspirin treatment will "fail."
>Secondary Prevention	Circulation.2002;105:1650 -1655. Eikelboom JW et. al. Aspirin-Resistant Thromboxane Biosynthesis and the Risk of Myocardial Infarction, Stroke, or Cardiovascular Death in Patients at High Risk for Cardiovascular Events.	Outcome data from patients enrolled in the Heart Outcomes Prevention Evaluation (HOPE) Study, recently published in Circulation, showed that patients who did not respond well to aspirin, as determined by 11-dehydrothromboxane B2 levels, have an increased risk of myocardial infarction and cardiovascular death.
>Secondary Prevention Review	Arch Intern Med 2007;167:1593-9. Snoep JD, et al. Association of Laboratory-Defined Aspirin Resistance With a Higher Risk of Recurrent Cardio-vascular Events	"patients biochemically identified as having laboratory aspirin resistance are more likely to also have "clinical resistance" to aspirin because they exhibit

		significantly higher risks of recurrent cardiovascular events compared with patients who are identified as (laboratory) aspirin sensitive."
>Secondary Prevention >Inflammation >Dyslipidemia	Basic & Clinical Pharmacology & Toxicology 2006;98:503-509. Markuszewski L. et. al. Reduced Blood Platelet Sensitivity to Aspirin in Coronary Artery Disease: Are Dyslipidemia and Inflammatory States Possible Factors Predisposing to Sub-Optimal Platelet Response to Aspirin?	"platelet responsiveness to acetylsalicylic acid was reduced in a group of coronary artery disease patients compared to controls without coronary disease."
>Stroke >Acquired Resistance	Stroke 1994.25;12:2331-2336. Helgason CM, et. al. Development of Aspirin Resistance IN persons With Previous Ischemic Stroke.	"The antiplatelet (and presumably the antithrombotic) effect of a fixed dose of ASA is not constant over time in all individuals."
>Healthy Subjects	Stroke. 2005;36:276-280. Gonzalez-Conejero R., et.al. Biological Assessment of Aspirin Efficacy on Healthy Individuals	"Full resistance of healthy subjects to aspirin is rather unlikely."

>Aspirin bypass mechanism	Thrombosis Research (2007) Tran HA, et. al. Aspirin Resistance	"The observation of an independent and graded association between urinary thromboxane and cardiovascular risk throughout the range of urinary thromboxane concentrations provides evidence that aspirin bypass is a more common problem than originally believed."
>Anti-platelet drugs	Arteriosclerosis, Thrombosis, and Vascular Biology. 2004;24:1980. Cattaneo M. Aspirin and Clopidogrel – efficacy, safety and the issue of drug resistance.	"Lacking a reproducible and highly sensitive and specific method to study TxA2-dependent platelet function, the pharmacological response to aspirin treatment should be assessed by measuring the degree of inhibition of TxA2 production. This could be performed by measuring either serum TxB2 or the urinary excretion of TxB2 metabolites. Therefore, based on the available techniques, the only acceptable definition

		of aspirin resistance should rely on the demonstration of an insufficient inhibition of TxA2 production."
>Review	J Thromb Haemost. 2005;3:1655-1662. Szczklik A., et al. Aspirin resistance.	"In summary, laboratory tests of platelet function, while able in general to show inhibitory effect of aspirin, are not specific and sensitive enough to quantitatively reflect platelet responsiveness to the drug. Percentages of subjects identified as aspirin-resistant vary widely depending on the method used. Their reproducibility, i.e. confirmation of 'resistance' in time is lacking." "More specific in this respect are measurements of whole-blood TXB2 production and of urinary excretion of its metabolite, 11-dehydro-thromboxane B2."
>Review	Journal of Thrombosis and Haemostasis 2003;1: 1710-1713. Aspirin Resistance:	"Thus, there may be clinical circumstances under which the mechanism(s) and

	definition, mechanisms and clinical read-outs.	cellular source(s) of TxA2 biosynthesis are inadequately blocked by conventional antiplatelet doses of aspirin."
>Review	Formulary. 2006;41:192-201. Chow SL, et. al. Aspirin resistance: a growing concern.	"Therapeutic failure due to aspirin resistance can have a major impact on the cost of treating patients with coronary heart disease and stroke."
>Review	Ann Intern Med. 2005;142:370-380. Sanderson S. et. al. Narrative Review: Aspirin Resistance and Its Critical Implications	"Aspirin is currently the most cost-effective drug for the secondary prevention of cardiovascular disease, but treatment failures are relatively common."

ASA is the abbreviation for Acetylsalicylic Acid

* In Canada, Aspirin is a trademark of Bayer AG, used under license.