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Cardiovascular surgery: Technical principles and inflammatory universe

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Abstract

Acquired or congenital structural heart diseases have interaction with complex immunological defense systems. This interaction consists of a real battle in which the protagonists are cell receptors, adhesion molecules, cytokines, chemokines, interleukins, monoclonal antibodies, enzymes, hormones and growth factors. It is very often to observe concomitance between structural heart disease and some comorbidities such as hypertension, stroke, diabetes, dyslipidemia, hyperuricemia, metabolic syndrome, cardio-renal syndrome and pulmonary diseases arising from excessive smoking. Thus, one can postulate that there is some inflammatory burden in patients will undergo cardiovascular surgery. This inflammatory pattern is consistently higher, especially if one focuses on procedures associated with cardiopulmonary bypass.

Cardiovascular surgery has been understood not only as restricted set of technical principles, but also as surgical science of holistic character, comprising technical knowledge in association with immunological, molecular and inflammatory aspects. Cardiovascular surgeon has become fully capable to reflect on surgical strategy to be performed, aiming to minimize ischemia-reperfusion in addition to prevent and modulate inflammatory response intrinsically associated with surgical procedure, particularly when cardiopulmonary bypass support is employed. Therefore, knowledge of underlying inflammatory universe related to maneuvers and actions of cardiovascular surgeon is crucial to procedural outcome as well as cardiovascular patients´ prognosis.

Biography

Edmo Atique Gabriel, MD, PhD, is a brazilian cardiovascular surgery, university professor, cardiovascular surgery consulting and editor of two textbooks by Springer - ´´Principles of Pulmonar Protection in Heart Surgery ´´(2010-2011) and ´´Inflammatory Response in Cardiovascular Surgery ´´(in press).