A REVIEW: FAILURES AND COMPLICATIONS IN VENTRICULAR ASSIST DEVICE

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The Ventricular Assist Devices VAD can be present complications related to Thrombogenesis and Hemolysis during Mechanical Circulatory Support (MSC). Hemolysis can have its effect minimized considering design characteristics to avoid mechanical trauma, among them using the Computational Fluid Dynamics study. However, the blood coagulation process can be inhibited by heparin administration, but the interaction of blood and biomaterials is intense, which does not eliminate the occurrence of thrombi device. In this way blood clotting, should be monitored periodically. The effective and noninvasive diagnosis of complications related to thrombus formation in VAD is a complex process. Vibrational analysis may be an alternative for the identification of mechanical failures or anomalies related to thrombus formation during MCS. The advent of MEMS (Micro-Electro-Mechanical Systems) technology allows the structural integration of sensors and can be an alternative to the monitoring of VAD. In this work the bibliographic review of complications in VAD and the techniques for identifying these failures in a qualitative way are presented.