

Blood-contacting biomaterials for critical clinical applications

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Blood-contacting biomaterials for critical clinical applications

Stellingen behorende bij dit proefschrift

1. After decades of intensive research and development, various antithrombotic and antimicrobial coatings are now clinically available to lower the risk of material-induced thrombosis or infection, respectively. None of these products, however, completely prevents thrombosis or infection. (*This thesis, Chapter 6*)
 2. A first step in the development of blood compatible coatings is the *in vitro* evaluation of interactions between the blood and the coating surface. Ideally, the *in vitro* test model should include blood-coating contact under flow. (*This thesis, Chapter 1*)
 3. Research on drug-containing hydrophilic surface coatings requires a highly accurate and reproducible coating protocol. (*This thesis, Chapter 5*)
 4. Measurement of thrombin generation curves alone is not sufficient to assess the blood compatibility of artificial surfaces. It is absolutely necessary to examine the platelets (and especially their status in terms of activation) as well. (*This thesis, Chapter 4*)
 5. It is believed that infectious complications of central venous catheters are interrelated with thrombotic complications. (*This thesis, Chapter 1*)
 6. Direct (i.e., solvent-free) transfer of Ag⁺ ions from nanosilver to the platelet membrane may induce platelet activation, which in turn facilitates thrombin formation and activation of more platelets. (*This thesis, Chapter 3*)
 7. Hematologic patients with normal or close-to-normal platelet (and leukocyte) concentrations are likely to be at the largest risk for catheter-associated thrombus formation. (*This thesis, Chapter 5*)
 8. The use of silver-containing nanomaterials is regarded as one of the most promising strategies to combat bacterial infections related to indwelling medical devices, e.g., catheters. (*This thesis, Chapter 3*)
 9. Wanneer bloed en een lichaamsvreemd oppervlak elkaar ontmoeten ontstaat er altijd chemie tussen hen.
 10. Ondanks dat objectiviteit essentieel is voor de wetenschap, komt er bij het doen van onderzoek een grote variatie aan emoties los.
 11. Intellectual growth should commence at birth and cease only at death. (*Albert Einstein*)
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