Molecular imaging of biofilm infections - Validation of FISH controls for automated endocarditis diagnostics


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SUMMARY

Fluorescence in situ hybridization (FISH) is a molecular technique, which allows identification and visualization of microorganisms within tissues. Currently, the daily diagnostic use of FISH is restricted to highly specialized laboratories because it involves not only high-level of expertise, but also many hands-on steps, time-consuming microscopy, laborious annotation and documentation of FISH images and is lacking standard high quality controls. In this project diagnostic use of FISH in daily routine for endocarditis diagnostics is tested by automating the full process of this technique. The group is focusing on multiple aspects of this diagnostic procedure – with one emphasis on the generation of solid and validated routine positive controls.

PROJECT ACHIEVEMENTS DURING & AFTER SPARK

- Design and validation of controls
- Developed a sample tracking software
- Currently developing semi-automated digital image analysis for detection of bacteria in histological sections
- Developed an intelligent image handling archiving and documentation system
- Currently testing entire platform in routine diagnostic and comparing the ‘hands-on’ with the automated FISH (within the BMBF-funded iSOLID consortium)