

E059

2-hour Educational Workshop

ESCMID guideline for the diagnosis and treatment of biofilm infections

Genetics, physiology, pathology and antibiotic resistance of biofilms in infections

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Most research of bacterial pathogenesis has focused on acute infections, while much less is known about the pathogenesis of infections caused by bacteria growing aggregated in biofilms. These infections tend to be chronic since they resist the body's innate and adaptive defence mechanisms and treatment with antibiotics, and the treatment of biofilm infections presents a significant unmet clinical need. The pathology of biofilm infections is due to chronic inflammation leading to tissue damage. To date there are no drugs that specifically target bacteria in biofilms, however several approaches are in early-stage development. A review is given of the current insights into biofilm genetics, physiology, pathology and antibiotic resistance mechanisms, and how a deep insight into the physical and biological characteristics of biofilms can inform therapeutic strategies and molecular targets for development of new anti-biofilm drugs.