Antibiotic chemotherapy against heterogeneous pathogen populations in complex host tissues

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Antibiotic chemotherapy effectively cures many infections caused by susceptible bacterial pathogens. However, in some cases, even extended treatment duration does not completely eradicate the pathogenic bacteria from host tissues. A common model for underlying mechanisms assumes the stochastic formation of bacterial persisters similar to observations in laboratory cultures. However, alternative explanations related to the complexity of infected host tissues could also be relevant. We discuss several of these aspects and emphasize the need for integrated analysis as a basis for new control strategies.
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