OE Gaillimh
NUI Galway

Microbiology External Seminar Series

Chronic infection in cystic fibrosis: adaptations to get 'stuck in' for the long haul

supported by MicroSoc

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Chronic infection with opportunistic pathogens such as *Burkholderia cepacia* complex (Bcc) is a hallmark of cystic fibrosis (CF). These pathogens are highly antimicrobial resistant so that once a patient is colonised, eradication is challenging. Over the past 10 years we have examined mechanisms of attachment of CF pathogens to lung epithelial cells and identified several antigens involved in the epithelial cell interaction. A subset of these have shown excellent potential as vaccine antigens in mouse challenge studies. Moreover, in response to selection pressures of the CF lung, CF pathogens have an impressive ability to adapt in order to facilitate colonisation. We have shown that two series of sequential Bcc isolates from CF patients increase their ability to attach to lung cells over time of colonisation. Proteomic analysis revealed many adhesins were enhanced in abundance in later isolates. In addition, a consistent time-dependent increase in abundance of proteins encoded on a low-oxygen-activated (lxa) locus was observed in both series of isolates. We are currently investigating the switch responsible for the transition from acute to chronic infection and the role of hypoxia in that adaptation to chronic colonization of the hypoxic niche of the CF lung.

Thursday, 7th February 2019

Larmour Lecture Theatre, Microbiology

followed by reception at 4pm

ALL WELCOME