

**DETECTION OF TYPE 3 PILI IN *KLEBSIELLA PNEUMONIAE* STRAINS
ISOLATED FROM MEDICAL DEVICES AT THE UNIVERSITY HOSPITAL OF
TLEMCEEN**

**SAMIA BELLIFA¹, HAFIDA HASSAINE¹, IMANE M'HAMED¹, IBTISSEM KARA TERKI¹
& CHRISTIANE FORESTIER²**

¹Laboratoire De Microbiologie Appliquée à L'Agroalimentaire Au Biomédical et à L'Environnement (LAMAABE),
Tlemcen, Algérie

²Clermont Université, UMR CNRS 6023 Laboratoire Microorganismes : Génome Environnement (LMGE)
Université D'Auvergne, Clermont-Ferrand, France

ABSTRACT

Isolates of *Klebsiella pneumoniae* are responsible for opportunistic infections in humans, particularly of the urinary tract and respiratory tract. These bacteria express type 3 fimbriae that have been implicated in binding to eucaryotic cells and matrix proteins. Twenty four *Klebsiella pneumoniae* strains isolated from medical devices were studied. Their capacity to form biofilm was assessed using two types of materials, polyvinylchloride (PVC), thermanox™ and glass *in static or kinetic conditions*. Strains with high adherence to PVC cling strongly to glass slides and thermanox. We determined the *in vitro* effects of three antimicrobial agents against planktonic and biofilm forms of *K pneumoniae* and we demonstrated that isolates as a biofilm form were 10-25 times more resistant than planktonic form. Most strains of *K. pneumoniae* harbored the *mrkD* gene and exhibited a strong ability to adhere to inert surface.

KEYWORDS: Biofilm, Fimbriae, *Klebsiella pneumoniae*, PVC