

## Distinct MALDI TOF MS-derived peak profiles in isogenic carbapenem-resistant and carbapenem-susceptible strains of *Klebsiella oxytoca*

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Fast and reliable determination of the carbapenem-resistance in Enterobacteriaceae is vital for therapy and outcome of related infections. MALDI TOF MS-based identification has been used as acceptable method which is fast and reliable. On the other hand, MALDI-TOF MS based susceptibility testing is not yet established in medical microbiological laboratories. The aim of this study was to show the distinct peaks in carbapenem-resistant (n=2) and carbapenem-susceptible (n=2) clinical *Klebsiella oxytoca* isolates with same genetic profiles. The 4 clinical isolates were isolated from blood cultures of the same patient in March 2010 (n=2), and June 2010 (n=2) and their identification and antimicrobial susceptibility testing were performed by using BD phoenix system (Becton Dickenson, USA). Carbapenemase activity was investigated by Modified Hodge Test (MHT), Metallo-beta-lactamase activity was tested by MBL E-test, and the presence of OXA-48 was investigated by PCR method. Pulse field gel electrophoresis was performed to show the genetic relationship between the isolates. The first 2 isolates were ESBL (+) and they were susceptible to ertapenem, imipenem and meropenem and the last 2 isolates were K1 hyperproducer and resistant to ertapenem, imipenem and meropenem; MHT and OXA-48 were positive for all isolates. All isolates showed same genetic profile by Pulse Field gel electrophoresis. By MALDI-TOF MS analysis distinct MALDI TOF MS-derived peak profiles were obtained between carbapenem-resistant and carbapenem-susceptible strains of *Klebsiella oxytoca*. This data would lead us to use such MALDI-TOF MS profiles in differentiation of resistant strains of *Klebsiella oxytoca* from susceptible strains.

### Biography

Aylin Uskudar Guclu has completed his Ph.D. at Middle East Technical University in 2011. She is working for Gulhane Military Medical Academy, at the Department of Clinical Microbiology.

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