The effectiveness of gentamicin against acanthamoeba cysts in vitro

Noradilah S.A., Mohamed Kamel A.G., Anisah N., Noraina A.R., Yusof S.

Abstract: Acanthamoeba is a free-living protozoa which causes serious ocular problem. Acanthamoeba keratitis is becoming more prevalent amongst contact lens wearers and it can cause loss of vision and blindness if not treated properly. The objective of this research is to determine the effectiveness of gentamicin against six Acanthamoeba spp. isolates, of which three were clinical isolates (HS 6, HKL 95, HTH 73) and three environmental isolates (SMAL 7, SMAL 8, TTT 9). Cyst suspension from the chosen isolates were exposed to gentamicin. After 48 hours of incubation at temperature of 30°C and 37°C, each mixture was filtered and filtration membrane was put onto non-nutrient agar laid with Escherichia coli. The agar plates were incubated for three days at 30°C and 37°C and the plates were examined daily until day 14 to look for the presence of Acanthamoeba trophozoites under inverted microscope. The presence of trophozoites indicated the ineffectiveness of gentamicin. Gentamicin was found to be effective against Acanthamoeba cysts from all the test strains at both incubation temperatures. The minimum cysticidal concentration (MCC) mean value of gentamicin was 0.193 mg/mL at 30°C and 0.229 mg/mL at 37°C. So, we concluded that gentamicin has cysticidal potential towards Acanthamoeba.

Subject: Acanthamoeba; Gentamicin; Sensitivity

Type: Article

Source title: Malaysian Journal of Medicine and Health Sciences

Year issue: 2012

Language: English