

الآية

قال الله تعالى :

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أَوَلَمْ يَرَ الْإِنْسَانُ أَنَّا خَلَقْنَاهُ مِن نُّطْفَةٍ فَإِذَا هُوَ خَصِيمٌ مُّبِينٌ (٧٧) وَضَرَبَ لَنَا مَثَلًا وَنَسِيَ خُلُقَهُ قَالَ مَنْ يُحْيِي
الْعِظَامَ وَهِيَ رَهِيمٌ (٧٨) قُلْ يُحْيِيهَا الَّذِي أَنشَأَهَا أَوَّلَ مَرَّةٍ وَهُوَ بِكُلِّ خَلْقٍ عَلِيمٌ (٧٩) الَّذِي جَعَلَ لَكُمُ
مِّنَ الشَّجَرِ الْأَخْضَرِ نَارًا فَإِذَا أَنتُم مِّنْهُ تُوقَدُونَ (٨٠) أَوَلَيْسَ الَّذِي خَلَقَ السَّمَاوَاتِ وَالْأَرْضَ بِقَادِرٍ عَلَىٰ أَنْ
يَخْلُقَ مِثْلَهُمْ بَلَىٰ وَهُوَ الْخَلَّاقُ الْعَلِيمُ (٨١) إِنَّمَا أَمْرُهُ إِذَا أَرَادَ شَيْئًا أَنْ يَقُولَ لَهُ كُنْ فَيَكُونُ (٨٢) فَسُبْحَانَ
الَّذِي بِيَدِهِ مَلَكُوتُ كُلِّ شَيْءٍ وَإِلَيْهِ تُرْجَعُونَ (٨٣)

صدق الله العظيم

سورة يس من الآية رقم 77 الى الآية رقم 83

Dedication

To my parents

To my wife

To my daughters

To my son

To my sisters and brothers

To my friends

To my neighbours

I dedicate this work

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Abstract

This study was carried out in Malaysian environment to investigate the presence and the molecular characterization of *Acanthamoeba*. A total of 80 samples were collected from University Malaya environment sources, lakes, dust, sewages and air condition. All samples were cultured on non nutrient agar spread with *E. coli* lawn, then tested microscopically, only 14 samples were positive for *Acanthamoeba* while another 66 were negative. The morphology of cysts and trophozoites of these 14 *Acanthamoeba* isolates were detected by Trichrome and Modified Field stain respectively. The cysts were stained red with spherical or wrinkled outer wall, while the trophozoites appeared blue with or without acanthopodia. Furthermore, these 14 positive samples were used for DNA extraction and purification by Advanced silica-gel-membrane technology. The purified DNA was used in Polymerase Chain Reaction (PCR) with primers, forward primer ACARNA.for1383 (TCCCCTAGCAGCTTGTG) and reverse primer ACARNA.rev1655 (GTTAAGGTCTCGTTCGTTA), ACARNA.for1345 (CGC GAG GGC GGT TTA) and ACARNA.rev1830 (GCT GGC TAG GCG CGC AG) to detect the genus and pathogenicity respectively. Out of these 80 isolates tested, 14 produced 272 bp.for the genus and many different sizes for the pathogenicity. These PCR product seemed to be similar with the result reported by Michael H. *et al.*, (1992) which showed *Acanthamoeba* genus and it's pathogenicity. The third primers were forward primer ACA18.for 2209 (CGGGCTTGTGAGGTCTC) and reverse primer ACA58.rev 92 (GATGATTCCTGATCCCTG) were used to detect the species of *Acanthamoeba*. The 14 positive isolates for *Acanthamoeba* were divided into three species, Eight isolates were categorised as *A. Castellani*, Three isolates were categorised as *Acanthamoeba* spp Lb. and three isolates were categorised as *Acanthamoeba* spp. Gc.

مستخلص الدراسة

أجريت هذه الدراسة في دولة ماليزيا بغرض التعرف والتوصيف الجزيئي للأميبيا الشوكية وذلك في الفترة من نوفمبر 2002 وحتى نوفمبر 2005.

تم جمع عدد 80 عينة من 4 مصادر بيئية مختلفة من جامعة الملايا شملت مجاري المياه ، البحيرات ، الغبار وأجهزة التكييف. عولجت كل العينات بزراعتها على وسط غير مغذي مضاف له الأيشريكية الكولونية ومن ثم خضعت لفحص مجهرى بواسطة المجهر المقلوب حيث إتضح ان عدد العينات التي تحتوي على الأميبية الشوكية 14 عينة فقط. وللتعرف على الخصائص الشكالية لهذه الأميبيا ، تم إستخدام صبغ الترايكروم والتيان الأزرق وصبغة فيلد المحسنة حيث ظهر الطور الكيسي لهذه الأميبيا بلون أحمر مع جدار خارجي كروي الشكل أو ذات حواف غير منتظمة بينما بدأ الطور النشط بلون أزرق مع أو بدون أقدام كاذبة. إضافة الى ذلك فقد تم إستخلاص الحمض النووي لهذه العينات بغرض إستخدامه في تقنية تفاعل البلمرة التسلسلي (CPR) وذلك لتحديد أنواع هذه الأميبيا وما إذا كانت ممرضة أم لا. كشفت نتيجة التفاعل البلمري التسلسلي ان 14 عينة أعطت نتيجة مشابهة لتلك التي حصل عليها (مايكل واخرين 1992) مما يعني أنها تنتمي إلي الاميبيا الشوكية منها تسعة أنواع ممرضة بينما الخمسة المتبقية غير ممرضة.

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