SPECIES IDENTIFICATION OF INTESTINAL MICROSPORIDIA USING IMMUNOFLUORESCENCE ANTIBODY ASSAYS

M Abdulsalam Al-Mekhlafi¹, MS Fatmah¹, N Anisah¹, M ‘Azlin¹, Hesham M Al-Mekhlafi² and M Norhayati¹

¹Department of Parasitology, Faculty of Medicine, Universiti Kebangsaan Malaysia, Kuala Lumpur; ²Department of Parasitology, Faculty of Medicine, University of Malaya, Kuala Lumpur, Malaysia

Abstract. The species identification of Enterocytozoon bieneusi and Encephalitozoon intestinalis is only possible using transmission electron microscopy (TEM), molecular techniques and immunofluorescence antibody assays (IFA). In this study, 50 positive and 50 negative fecal specimens for microsporidial spores using the Weber modified trichrome (WMT) staining technique were examined using IFA-MAbs. Of the 100 specimens examined, the microsporidial spores identified by IFA-MAbs were Enterocytozoon bieneusi 42 (75%) Encephalitozoon intestinalis 7 (12.5%) and mixed infections 7 (12.5%). The sensitivity and specificity of IFA-MAbs in detecting microsporidial spores were 98% and 86%, respectively. The agreement between the WMT staining technique and IFA-MAbs was statistically significant by Kappa statistics (K=0.840; p<0.001). E. bieneusi was the commonest Microsporidia species isolated from the studied population; the presence of microsporidial spores detected by IFA-MAbs should be confirmed by other methods.

Keywords: microsporidia, identification, IFA-MAbs