Manuscript ID : 00001-31195

Source ID : 00000408

Bangladesh Journal of Infectious Diseases

Volume 7, Issue 2, December 2020, Pages 61-66, Page Count - 6

Seroconversion of Indirect Immunofluorescent Antibody IgM and IgG in Melioidosis

Arumugam Janaki [1] How Soon Hin [2] Ummu Afeera Zainulabid [3] Mohammed Imad A Mustafa Mahmud [4] Jamaluddin Ab Rahman [5] Ahmad Kashfi Ab Rahman [6] Yeh Chunn Kuan [7]

[1] Science Officer, Department of Basic Medical Science, Hospital Tengku Ampuan Afzan, Kuantan, Pahang, Malaysia.
[2] Pulmonologist and Medical Lecturer, Department of Internal Medicine, Kulliyyah of Medicine, International Islamic University Malaysia- Kuantan Campus, Pahang, Malaysia.
[3] Internal Medicine Specialist and Medical Lecturer, Department of Internal Medicine, Kulliyyah of Medicine, International Islamic University Malaysia- Kuantan Campus, Pahang, Malaysia.
[4] Medical Lecturer, Department of Basic Medical Science, Kulliyyah of Medicine, International Islamic University Malaysia- Kuantan Campus, Pahang, Malaysia.
[5] Public Health Consultant, Department of Community Medicine, Kulliyyah of Medicine, International Islamic University Malaysia- Kuantan Campus, Pahang, Malaysia.
[6] Infectious Disease Consultant, Department of Internal Medicine, Hospital Sultanah Nur Zahirah, Terengganu, Malaysia.
[7] Pulmonologist and Ex Medical Lecturer, Department of Internal Medicine, Kulliyyah of Medicine, International Islamic University Malaysia- Kuantan Campus, Pahang, Malaysia.

Abstract

Background:
There are several serological tests used in the diagnosis of melioidosis. However, the interpretation of the results can be problematic in endemic areas because there might be a high background positivity due to previous exposure.

Objective:
This study aimed to determine the usefulness of Indirect Immunofluorescent Antibody (IFA) IgM and IgG in the diagnosis of melioidosis and the time for seroconversion.

Methodology:
We prospectively studied the trend of IFA IgM and IgG in 40 patients with culture-confirmed melioidosis over three months at six different time points (days 1, 8, 15, 30, 60, and 90).

Results:
From the results, 37.5% and 32.5% of patients had IFA IgM and IgG of ≤ 1:20 respectively on day 1 when the blood culture was positive. The natural log (ln) of the titres was used for the analysis. Repeated measures ANOVA showed significant changes in both IgM (p= 0.001) and IgG (p= 0.045) respectively throughout six sampling time points. Both the means of ln IgM and ln IgG peaked at day 15. At day 90, mean ln IgG remained high but mean ln IgM dropped to a level below that of day one. All culture-confirmed melioidosis patients recorded a maximum IFA IgM titre of at least 1: 80, but all subsequently dropped to below this level at day 90.

Conclusion:
IFA IgM is a more useful diagnostic serological marker than IFA IgG in acute melioidosis

Author Keywords

Melioidosis, Serology, IFA IgM, IFA IgG, Seroconversion

Acknowledgement
We thank all the microbiology staff at Hospital Tengku Ampuan Afzan (HTAA), Kuantan, Kulliyyah of Medicine, IIUM and Hospital Sultanah Nur Zahirah (HSNZ), Kuala Terengganu for their assistance and provision of serum samples.

ISSN Print: 2411-4820
ISSN Online: 2411-670X
Source Type: Journals
Document Type: Journal Article
Publication Language: English
DOI: https://doi.org/10.3329/bjid.v7i2.51514
Abbreviated Journal Title: BJID
Access Type: Open Access
Publisher Name: National Institute of Neurosciences & Hospital
Resource Licence: CC BY-NC
Major Subject: Health Sciences
Subject Area classification: Medicine
Subject area: Internal Medicine
Source: SCOPEDATABASE

Reference