

A note on the prothrombin time abnormality in the patients with amebic liver abscess

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Abstract:

Amebic liver abscess is reported worldwide and can present with a wide spectrum of clinical manifestations. Similar to the other liver diseases, the prothrombin time abnormality can be seen in the patients with amebic liver abscess. We retrospectively studied the prothrombin times among 30 Thai hospitalized patients with amebic liver abscesses and did not find any correlation between the prothrombin time and any other studied manifestation

Key Words: Amebic liver abscess, Prothrombin time

Introduction:

Amebic liver abscess is caused by the same organism, *Entamoeba histolytica*, that causes intestinal amebiasis. The organism is carried through the blood to the liver where abscess is formed. Patients may or may not have symptoms of intestinal infection concurrently with liver abscess.¹ The infection is present worldwide, but is most common in tropical areas where crowded living conditions and poor sanitation exist. Africa, Latin America, Southeast Asia, and India have significant health problems associated with this disease.

Amebic abscess can demonstrate a wide spectrum of clinical presentations from no complaints to fatal disease.^(2,3) Laboratory abnormalities, which can be seen on admission, include leukocytosis, hypoalbuminemia, prolonged prothrombin time, abnormal serum transaminase level and elevation of serum ALP and hyperbilirubinemia.^{4,5}

Pinilla et al noted that an elevation in prothrombin time of less than 1.5 seconds had enough discriminatory capacity for the diagnosis of amoebic liver abscess.⁶

We retrospectively studied the prothrombin test among 30 Thai hospitalized patients with amebic liver abscesses to correlate the prothrombin time and the other characteristics of the patients.

Materials and Methods:

The main aim of this work was to study the results of prothrombin test among the hospitalized patients with amebic liver abscesses. The correlation between the prothrombin time and the other characteristics of the patients was also assessed. The medical records of 30 in-patients at the King Chulalongkorn Memorial Hospital, Bangkok, Thailand, who had been diagnosed as cases of amebic liver abscess, between January 1992 and December 2001, were retrospectively reviewed.

The inclusion criteria were 1) the cases with amebic liver abscess and 2) the cases with complete medical records for further analysis. In each case, the abscess was diagnosed on the basis of the abscess cavity's appearance on liver ultrasound and/or CT scans, and the recovery of pus from the cavity during needle aspiration. The diagnosis of amebic liver abscess was confirmed by a) the identification of *E. histolytica* by microscopic examination of the pus or b) positive serological titer (1:256) or greater by *E. histolytica* indirect hemagglutination (IHA) test.⁽¹²⁾ The exclusion criteria were 1) the cases with liver cirrhosis 2) pediatric patients (age <15 years) and 3) the cases with anti HIV seropositive, since these cases are known to have incomplete biological response and reported to be at risk for aberrant clinical and laboratory presentations.⁷

The data of the prothrombin time result of all cases were extracted from the records. Each prothrombin time test was requested for a subjective

assessment of liver function in the patient. The mentioned prothrombin time in this study was performed by an automated hematology analyzer Fibrintimer A, Dade Behring. All tests were carried out at room temperature. All tests were performed in the same laboratory of King Chulalongkorn Memorial Hospital. All investigations were investigated under the standard quality management process. Additional collated data from the records included the sex and age of each patient and the symptoms and signs. The results from other related laboratory investigations were reviewed as well. All recorded data were collected and analyzed using descriptive statistics. The multiple logistic regression analysis was used for determining the correlation between the prothrombin time and the patients' characteristics. Statistical

significance level was accepted at P-value equaled to 0.05. All the statistical analyses in this study were performed by SPSS 7.0 for Windows Program.

Results:

Thirty patients with amebic liver abscess were included in this study. At presentation, these 30 cases — 18 men (60 %) and 12 women (40 %)— had a mean (SD) age of 48.46 (18.92) (range = 15-88 years). Average duration of illness was 7.48±0.98 days. On admission, the average prothrombin time was 17.42±4.82 seconds. Concerning the multiple logistic regression analysis, there was no significant correlation between the prothrombin time and the other characteristics of the patients (P> 0.05; Table 1).

Table 1: Correlation between prothrombin time and the other characteristics of the patients

Patients' characteristics	Correlation coefficient (r)	p value
Age	0.58	0.29
Sex	0.42	0.38
Duration of present illness	0.62	0.51
Duration of admission	0.46	0.20
White blood count	0.78	0.16
Serum albumin	0.72	0.14
Serum aspartate transaminase (AST)	0.45	0.21
Serum alanine transaminase (ALT)	0.48	0.24
Serum alkaline phosphatase (ALP)	0.29	0.28
Serum bilirubin	0.68	0.16

Discussion:

The prothrombin time abnormality can be seen in the patients with amebic liver abscess, similar to the other liver diseases. Prolonged prothrombin time was observed among our patients of amebic liver abscess also, however, most of our patients did not have a severe abnormality (less than three times normal). Munoz *et al*⁸ reported some correlation of the prothrombin time to the clinical aspects of the patients with amebic liver abscess in that the finding of prolonged prothrombin time was strongly related to the prolonged hospitalization and complications in the patients. Similar

findings were reported by Pimpakar and Abraham⁹ as well. However, we did not find any correlation between the prothrombin time to any other studied characteristic of the patients.

Conclusion:

Prolonged prothrombin time is an important laboratory presentation among the patients with amebic liver abscesses, but there may not be any correlation with other manifestations of the illness.

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