

INFECTIOUS MONONUCLEOSIS OR TOXOPLASMOSIS?

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INTRODUCTION

IN Malaysia, since 1954, a total of 1,916 suspected cases of infectious mononucleosis (I.M.), mostly with typical clinical and blood pictures, has been investigated. Of these, 1,813 were Asians of all ages; 101 were Caucasians, aged 13 to 61 years; and 2 were Eurasian children (both with Indian fathers and European mothers). All the Asians examined were found negative but 25.2% (26/103) of the Caucasians and the two Eurasians examined were confirmed positive both serologically and haematologically. The positive Caucasians were all foreigners but the two Eurasian children were Malaysian-born.

In 1967, attention was drawn to the apparent absence of I.M. with heterophile antibodies among Asians in Malaysia (Tan, 1967). The explanation for this was subsequently obtained when Malaysian children were tested and found to have a high antibody prevalence to Epstein-Barr Virus (EBV) which has now been accepted as the cause of I.M. (Henle & Henle, 1972). The vast majority of Malaysian children acquire antibody to EBV in the first years of life. Thus, few if any are still susceptible when they reach adolescence when I.M. is the likely result of delayed primary EBV infections (Tan & Henle, 1972).

As the clinical manifestations of I.M. are similar to those of toxoplasmosis which has an antibody ratio of 13.9% in Malaysians (Tan & Zaman, 1973), it was thought that some of the suspected cases of I.M. could have been toxoplasmosis. It was decided, therefore to test the I.M.-negative sera for toxoplasmosis to detect what proportion of I.M.-like cases were in fact toxoplasmosis.

MATERIALS AND METHODS

Paired sera from 136 patients and single convalescent sera specimens from 25 patients with fever, lymphadenopathy and/or sore throat were tested for heterophile antibodies of I.M. by the Ortho-monospot test and confirmed by the Paul-Bunnell and Davidsohn's tests. The full blood count of each case was also performed. The sera were subsequently tested for toxoplasmosis antibodies by the Indirect Haemagglutination (IHA) test. The sensitized cells for IHA were prepared according to the method of Jacobs and Lunde (1957).

RESULTS

Of a total of 161 sera, paired and single convalescent, of I.M.-negative cases examined, 18 (11.1%) were positive for acute toxoplasmosis and 21 (13.0%) had residual antibodies indicating previous infection (Table I).

Table I

Results of toxoplasmosis IHA test

Specimen	Total Exam.	Positive	Previous Infection
Paired Sera	136	15@	15†
Single convalescent	25	3*	6**
Totals:	161	18(11.1%)	21(13.0%)

@ ≥ 4-fold rise in titre

† Stationary or < 4-fold rise in titre

* Titre : ≥ 1 : 12,800

** Titre : ≤ 1 : 6,400

Malays had the highest rate of infection (50%) followed by the Indians (28%) and Chinese (22%). The majority of cases were 0-10 years of age (66.6%), with 16.7% aged 11-20 years and 16.7% over 20 years of age. In terms of sex distribution, males predominated (94.4%) (Table II).

Table II
Age, sex and racial distributions of positive toxoplasmosis cases

Age group	No. Pos.	% Pos.	Race	No. Pos.	% Pos.
0-10	12	66.6	Malay	9	50.0
11-20	3	16.7	Indian	5	28.0
20+	3	16.7	Chinese	4	22.0
Totals:	18	100.0	Totals:	18	100.0
Male	17	94.4			
Female	1	5.6			

The blood pictures of 46 cases were examined. In both toxoplasmosis-positive and negative cases, about half gave a picture typical of viral or I.M. infection (Table III).

Table III
Blood picture of IM-negative cases tested for toxoplasmosis

Group	Total Exam.	Blood Picture Reading*	
		+ (%)	- or ? (%)
Toxo-positive	10	5 (50)	5 (50)
Toxo-negative	36	19 (52)	17 (48)
Total:	46	24 (52)	22 (48)

* + : "Suggestive of Viral Infection".
? : Doubtful.

DISCUSSION

Toxoplasma gondii is an intracellular protozoan which is widely distributed in nature and is capable of infecting all orders of mammals. However, only members of the cat family (Felidae) are capable of producing oocysts, which along with the tissue cyst, is the infective stage of the parasite. Humans acquire the infection by accidental ingestion of oocysts from cat faeces or by eating improperly cooked meat containing tissue cysts. The meat could be from any animal.

In Malaysia, although the report that toxoplasmosis was prevalent in 13.9% of the population was published in 1973 by Tan and Zaman, toxoplasmosis is usually not looked for in PUO cases, and patients with fever and lymphadenopathy with or without sorethroat are often suspected of having I.M. instead, although I.M. is rare in Asians in this country. It is probably because the symptoms of toxoplasmosis are generally accepted as being usually negligible that, apart from its importance as a cause of congenital diseases and eye infection, it is often overlooked.

The results obtained from this study showed that 11.9% (18/161) of cases suspected to be I.M. turned out to be toxoplasmosis instead. They also serve to confirm the results of the survey performed by Tan and Zaman in 1973 in which Malays were found to be most highly infected and the infection, acquired early in life. Males appeared to be more susceptible to the overt form of the disease, for some obscure reason. Residual antibodies indicating previous infection were found in 13.0% of the PUO cases tested.

The blood picture does not give a clear indication of whether a suspected case is I.M. or toxoplasmosis as, even in toxoplasmosis, 50% of cases examined showed a picture "suggestive of viral infection". In I.M. the blood picture readings are almost always indicative of the infection.

In view of the above findings, the authors wish to remind physicians that toxoplasmosis can cause PUO and manifest itself like I.M. Instead of investigating such cases for I.M. they should give greater priority to toxoplasmosis which is currently being studied in the Division of Filariasis in the Institute for Medical Research, Kuala Lumpur.

SUMMARY

A total of 161 I.M.-negative cases were examined for toxoplasmosis. Of these, 18 (11.1%) were positive. Most of the cases were Malays, males and 0-10 years of age. Previous infections with toxoplasmosis, evidenced by residual antibodies, were detected in 13.0% of the PUO cases. The blood picture in 50% of confirmed toxoplasmosis cases were "suggestive of viral infection" and is therefore not regarded as reliable in the differentiation of toxoplasmosis from I.M. Physicians are advised to give greater priority to toxoplasmosis than to I.M. in their investigation of PUO in Malaysia.

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