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Research Note

The Prevalence of *Toxoplasma* Antibodies among General Outpatients and Pregnant Women in Tokyo Area

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The incidence of *Toxoplasma* infections in humans would be different according to their ages and residing areas. In a previous study (Kobayashi, 1977), it was reported that the prevalence rate of *Toxoplasma* infections in a certain age group in Tokyo area was roughly estimated at a value as calculated by age (year) × 2/3%. Also the positive rate of antibodies to *Toxoplasma* among pregnant women in the same area was reported as 25.3% by the dye test (DT) (Kobayashi *et al.*, 1974) and 21.3% by indirect latex agglutination (LA) test (Ise *et al.*, 1981).

In Hyogo prefecture, the incidence rates in patients of a hospital and pregnant women were reported as 15.7% (Takahashi *et al.*, 1985) and 5.8% (Konishi *et al.*, 1987), respectively. Suzuki *et al.* (1987), studying on a general population in Nagasaki City, demonstrated that a considerably high prevalence rate such as 46.3% was shown in age group of 20–79 years old by enzyme-linked immunosorbent assay.

As the prevalence rates were thought to change chronologically, a survey was conducted to know recent rates of *Toxoplasma* infections among people of various ages (11–70 years) and pregnant women residing in Tokyo area.

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Six hundreds serum samples were obtained *ad libitum* from people visiting the Center of Health Medicine, Jikei University Hospital; 100 sera each from 6 different age groups. Anti-*Toxoplasma* antibodies were also examined in 2544 pregnant women visiting the obstetric clinic of the same hospital during January, 1982 to December, 1986.

Anti-*Toxoplasma* antibodies were detected by LA test (Tsubota *et al.*, 1977), the kit of which was purchased from Eiken Chemical Co., Tokyo, Japan. The LA test kit was proved to be useful for serological survey of *Toxoplasma* infection, because of its high qualitative agreement with DT and simplicity (Kobayashi *et al.*, 1977; Hirai and Nagai, 1978).

Results of LA tests as tabulated by age group are shown in Table 1. The average prevalence rate was 25.7% and the rate increased with age. The highest rate of 45.0% was found in an age group of 61–70 years old, while the lowest value of 6% in 10–20 years old. The average rate of the infection (25.7%, 154/600) was slightly higher than the rate (21.7%, 104/480) obtained in our previous study (Kobayashi, 1977). This difference was considered to be due to different constitution of age groups of subjected persons between both studies. In the present survey, age group of 0–10 years old was not included, while it was included in the former study. If the data of this group are omitted from the previous data, the overall prevalence rate is to be 26.9% (97/360),

Table 1 Frequency of *Toxoplasma* latex agglutinating antibodies in a general population in Tokyo area

Age group (years)	No. of examined	Positive*	
		No.	%
11-20	100	6	6.0
21-30	100	10	10.0
31-40	100	22	22.0
41-50	100	27	27.0
51-60	100	44	44.0
61-70	100	45	45.0
Total	600	154	25.7

* LA titers of 1 : 32 or higher are regarded as positive.

Table 2 Frequency of *Toxoplasma* latex agglutinating antibodies among pregnant women from 1982 to 1986 in Tokyo area

Year	No. of examined	Positive*	
		No.	%
1982	513	77	15.0
1983	512	78	15.2
1984	515	89	17.3
1985	483	62	12.8
1986	521	98	18.8
Total	2544	404	15.9

* LA titers of 1 : 32 or higher are regarded as positive.

which is close to that of present data. However, the prevalence rates in the present study for age groups of 11–20 and 21–30 years old were significantly lower than those in the previous study, *i.e.*, 6% vs 13.3% in 11–20 years and 10% vs 16.7% for 21–30 years.

Table 2 shows the frequency of pregnant women having *Toxoplasma* antibodies. Result shows that 404 (15.9%) of those women were found to be positive.

This rate was also lower than the value 25.3% obtained in our previous study (Kobayashi *et al.*, 1974). Furthermore, it was noted that this value was very close to 16.0% in the general outpatients at 21–40 years old in the present study.

The above may suggest that the prevalence of *Toxoplasma* infections tended to decrease in young age group, 10–30 years old, and also in pregnant women in Tokyo area.

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