

THE INDIA INK IMMUNOREACTION OR CARBON IMMUNOASSAY IN THE DIAGNOSIS OF HUMAN TOXOPLASMOSIS PERFORMED WITHOUT USE OF COMPLEMENT

After Waller's introduction (Lab. Anim. 11: 93–97, 1977) of Geck's experience with India ink (Acad. Sci. hung. 18: 191–196, 1971) into serological diagnosis of encephalitozoonosis Chalupský did the same in the diagnosis of human toxoplasmosis (Folia parasit. (Praha) 28: 131–136, 1981) and Waller in rabbit toxoplasmosis (Lab. Anim. Sci. 32: 515–517, 1982). This type of reaction uses India ink as a revealing

agent of positive results and has been called "India ink immunoreaction" (IIR). Now Waller (personal communication) proposes the name „carbon immunoassay" (CIA) for this reaction. Perhaps the term "carbon particles immunotest" (CPIT) would be more exact, but we accept Waller's proposal here.

In our CIA procedures we have used the complement after washing of sera. It has proved

to be better or necessary. Testing new batches of India ink we have selected a very suitable one that works well without use of the complement. We examined 140 human sera with pre-vailed positivity to toxoplasmosis by CIA "with" and "without" complement at the familiar twofold serial dilutions. The India ink used was again Higgins Black Magic produced by Faber-Castell, GFR. The results of CIA "with" and "without" are arranged in Table 1.

The sera were examined also by indirect immunofluorescent test (IIFT), so the results of CIA could be compared once again. Both reactions were performed as described in our paper mentioned above.

Our results suggest that CIA in the diagnosis of toxoplasmosis could also be completed without the use of complement. On the average,

the sensitivity of CIA "without" is decreased. The staining obtained was not so impressive as a rule; the outlines of zoites of *Toxoplasma gondii* (antigen) were not so smooth and intense. In general, the results of CIA "without" were quantitatively and qualitatively poorer but usable, so that it is a good step for further experience in shortening of the procedure. Concerning the comparison of CIA (in modification "with") and IIFT the results obtained are similar to the results previously obtained (see Chalupský 1981); the sensitivity of CIA was on the average decreased by one dilution towards IIFT.

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Table 1. Comparison of results of CIA performed with and without complement

Titer	With complement											Total
	Neg.	8	16	32	64	128	256	512	1024	2048	4096	
Neg.	5											5
8		3										3
16		4	5	3								12
32		3	13	10	1							27
64			4	14	13							31
128				3	8	4						15
256				1	4	5	6	1				17
512				1			8	2	1			12
1024					1		2	1	6	1		11
2048								1		2		3
4096									1	1	2	4
	5	10	22	32	27	9	16	5	8	4	2	140

Titer of sera = 1 : x.